

2002

ARMED FORCES INSTITUTE OF PATHOLOGY

ANNUAL REPORT



2002 ANNUAL REPORT

Armed Forces Institute of Pathology
Washington, DC 20306-6000



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Riggs Bank Building, Pennsylvania Ave. and
15th St., NW, 1862–1863



180 Pennsylvania Ave., NW, 1863



Corcoran Schoolhouse, 1325 H Street,
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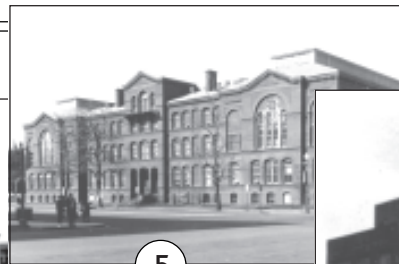
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4

Ford's Theatre
511 10th St., NW,
1866–1887



5

The "Old Red Brick," 7th St. and
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6

Home of the AFIP on the grounds of Walter Reed
Army Medical Center since 1955

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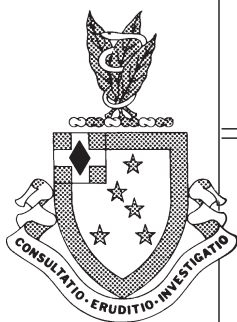
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MISSION

The Armed Forces Institute of Pathology supports the United States Department of Defense and serves the American people by providing medical expertise in diagnostic consultation, education, and research to enhance the health and well being of the Nation.

VISION

The foremost pathology knowledge center, combating disease through:

Authoritative Diagnosis
Future focus
Innovative Research
Preeminent Education

GUIDING PRINCIPLES

Patient comes first
Integrity/honesty
Professionalism
Excellence
Teamwork

GOALS

1. **PERFORMANCE**—An Institute that clearly pursues, establishes, and preserves world-class performance based on access, quality, and cost.
2. **RECRUITMENT & RETENTION**—An atmosphere of personal and professional growth that recruits, develops, and retains innovative, creative people and renowned leaders.
3. **OPERATIONS**—An efficient work environment in a central location that fosters trust and collaboration, mission focus.
4. **READINESS**—A tri-service, interactive Institute recognized nationally for its distinguished contributions to the medical services and mission readiness of the Armed Forces through scientific discoveries, consultations, education and training, investigations, and research and development.
5. **COLLABORATIONS**—An Institute that actively promotes formal collaborative projects, programs, and processes that benefit the Armed Forces and the nation with government, academia, industry, and worldwide partnerships with a combined commitment to stewardship.



DIRECTOR'S MESSAGE

In 2002, the Armed Forces Institute of Pathology (AFIP) fulfilled its mission with distinction. Our dedicated, world-renowned professional staff provided expert diagnostic second-opinion pathology consultations on over 50,000 difficult cases, performed risk management and utilization review, contributed some 500,000 contact hours in medical education and training, and collaborated on \$14 million in pathologic and scientific research programs that will benefit the US military and civilian medicine worldwide.

A brief overview of Institute accomplishments in 2002 includes the following:

The **Armed Forces Medical Examiner System (AFMES)** provided global forensic support, completing identifications of all victims of the 2001 terrorist attack on the Pentagon and identifying all military casualties from the war in Afghanistan. The **Armed Forces DNA Identification Laboratory** provided key support in identifying victims of the attacks on the Pentagon and in Somerset County, Pennsylvania, while continuing work on identifying Vietnam-era war dead. The AFMES reported on over 440 specimens and over 1,500 family references during the year. AFMES also worked on cases for the State Department and the FBI, including the death of journalist Daniel Pearl and recent US casualties from Chechen terrorist attacks in Moscow. AFMES collaborated on body armor protection research, which saved the lives of US soldiers during Operation Anaconda, and is providing a medical solution for the management of remains contaminated by chemical/biological/nuclear warfare. The **Mortality Surveillance Division**, a joint AFMES-DoD Global Emerging Infections Surveillance and Response System (DoD-GEISS) effort, obtains baseline mortality data on military service members and monitors mortality trends worldwide. The division's work has led to improved tracking of mortality trends and timeliness of notification, more rapid intervention, more accurate determinations of cause of death, and access to the legal authority of the medical examiner.

The **Division of Microbiology** focused on biosurety issues. The BSL-3 laboratory provided Laboratory Response Network, Level C evaluation of over 6,000 potential DC-area anthrax specimens, and confirmed 60 positive cases. Division staff were involved in classified and unclassified research, including biodefense vaccine development, PCR chip technology, forensic fingerprinting, and epidemic outbreak surveillance. They continue to collaborate with other AFIP departments on rapid characterization of West Nile fever.

The **Department of Telemedicine** partnered with USAMEDCOM and WRAMC to utilize robotic microscopy to facilitate expert telepathology consultations. This involved the purchase and deployment of over 116 microscopes to Army Medical Treatment Facilities worldwide. Telepathology will significantly decrease turnaround time on difficult cases and lead to improved patient care by defining better criteria for medical evaluation.

Among other programs, experts in the **Department of Environmental and Toxicologic Pathology** continued military-relevant investigations of Navy sarcoidosis, Persian Gulf illness, and the effects on US service members of exposure to heavy metals and depleted uranium.

The **Department of Cellular Pathology and Genetics** implemented a variety of significant genetic screening tests to benefit active-duty members and their dependents.

- A collaboration with the North Atlantic Regional Medical Command to test approximately 25,000 patients annually for cystic fibrosis.
- Testing for cancer susceptibility and predictive factors for adverse drug reactions and potential reactions to workplace toxins.
- Thrombotic screening services to hundreds of patients annually at NNMC and WRAMC.
- Hemochromatosis screening.

- Broad-based genetic counseling services at NNMCC.

The departments of **Cellular Pathology and Genetics**, **Veterinary Pathology**, **Scientific Laboratories**, **Neuropathology** and **Ophthalmic Pathology** are conducting a congressionally-mandated Office of Naval Research study on effects of low-frequency sonar on marine mammals, particularly beaked whales. **Veterinary Pathology** also supports surveillance of infectious veterinary diseases such as foot-and-mouth and BSE that have implications for human health.

The Institute's **DoD-directed programs** with broad outreach included the **Center for Clinical Laboratory Medicine** (implementing guidelines for DoD labs worldwide); **Automated Central Tumor Registry** (> 280,000 active cancer cases), **Patient Safety Center** and **National Museum of Health and Medicine** (NMHM) (> 100,000 visitors).

Experts at the **National Museum of Health and Medicine** supported HHS/FEMA through the Disaster Mortuary Operational Response Team (DMORT). The team coordinated AFIP response to the Somerset County investigation of UAL Flight 93, participated in collection activities with medical units from all services, served as a training sponsor for numerous civilian investigative agencies (eg, NTSB, AAFS), and supported the Borden Institute with access to unique historical resources for the authors and editors of the *Textbook of Military Medicine*.

Forensic Dentistry created specialized dental ID teams at USAF medical centers for multiple casualty incidents, and digitized panoramic dental x-ray films for easier access to authorized users.

The **Department of Genitourinary Pathology** conducted immediate, expert diagnoses in scores of prostate cases for the DoD Prostate Cancer Program.

The departments of **Gastrointestinal**, **Cellular**, and **Soft Tissue Pathology** collaborated on techniques for molecular characterization of the most common GI tumors, leading to more rapid diagnoses.

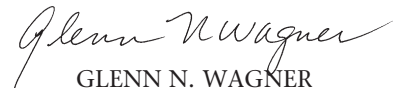
The **Division of Hepatic Pathology** developed a specialized histological characterization of hepatitis C for diagnosis and therapeutic options.

The **Department of Neuropathology** collaborated on identification of genetic markers in military personnel at risk for rhabdomyositis.

The **Department of Gynecologic and Breast Pathology** completed multiple studies on immunohistochemical and molecular features of mammary carcinoma, funded by the DoD Breast Cancer Research Program. The department conducted consultations on over 1,800 military cases, virtually all of which were surgical pathology specimens, and reviewed thousands of glass slides in cases of medico-legal significance.

The **Department of Medical Education** awarded over 30,000 hours in Continuing Medical Education credits to military physicians, veterinarians, scientists, and others. AFIP trained all military radiologists and veterinary pathologists, and offered dozens of other courses and programs to benefit US military medical personnel.

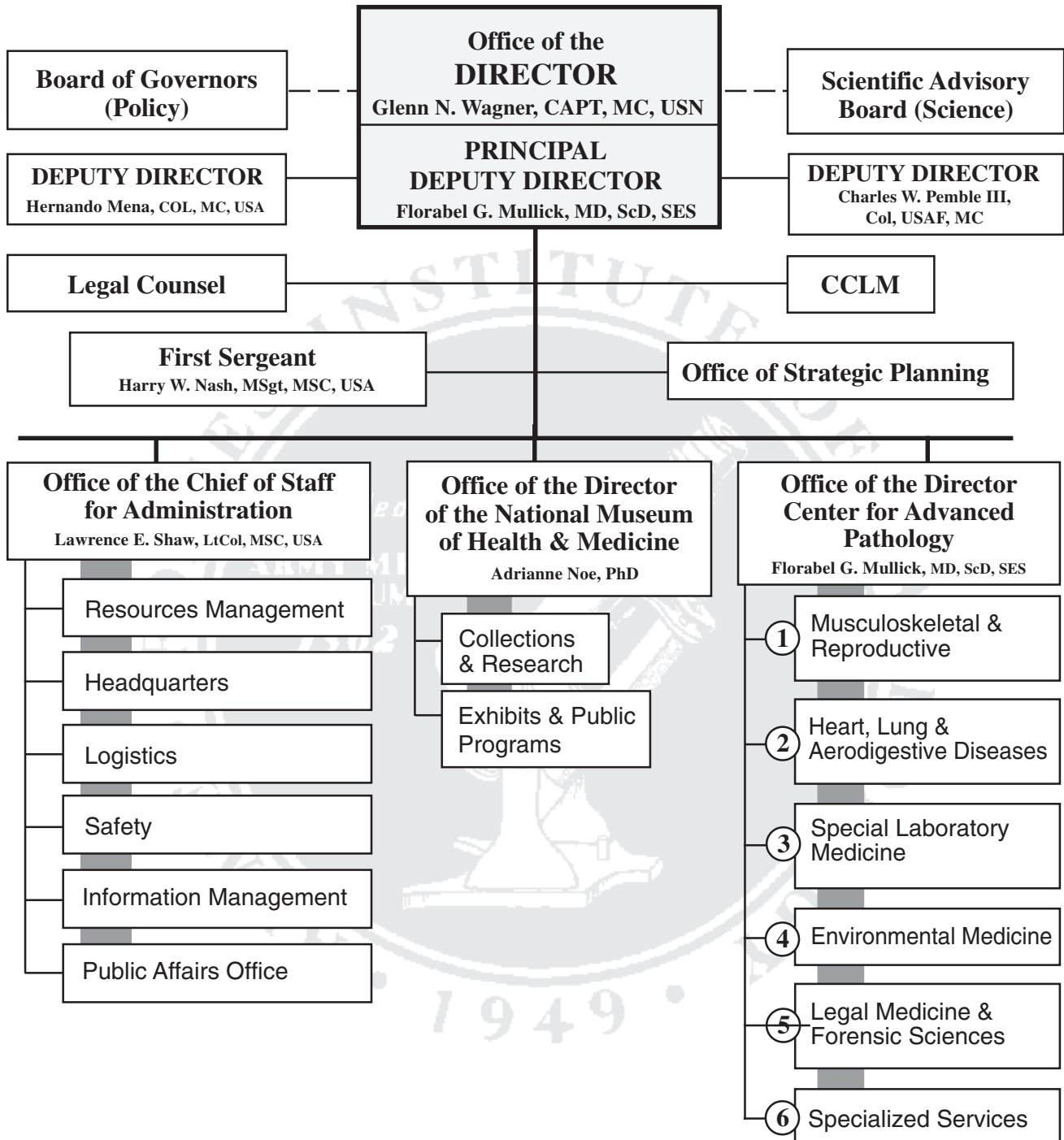
Mission Accomplished.



GLENN N. WAGNER
CAPT, MC, USN
The Director

Organization Chart

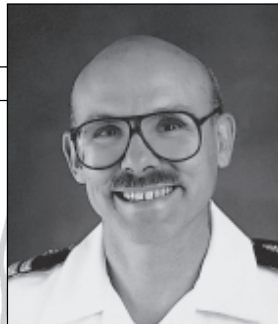
Armed Forces Institute of Pathology



Executive Committee



Florabel G. Mullick
MD, ScD, SES
Principal Deputy Director



Glenn N. Wagner
CAPT, MC, USN
The Director



Adrianne Noe, PhD
Director
National Museum of
Health and Medicine



Hernando Mena
COL, MC, USA
Senior Army Officer



Charles W. Pemble III
Col, USAF, DC
Deputy Director
Director, Field Operations



Lawrence E. Shaw
LTC, MS, USA
Executive Officer



Harry W. Nash
MSgt, MSC, USA
First Sergeant

Board of Governors

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The Board of Governors of the AFIP consists of the Assistant Secretary of Defense (Health Affairs), who serves as the Chairperson of the Board; the Assistant Secretary for Health, Department of Health and Human Services; the Surgeons General of the Army, Navy, and Air Force; the Chief Medical Director for the Department of Veterans Affairs; and a former Director of the Armed Forces Institute of Pathology. The Board of Governors meets quarterly, and, based on the recommendations of the Scientific Advisory Board and Institutional reports, establishes guidelines and broad administrative and professional policies in consonance with the medico-military objectives of the Institute. The Board of Governors met March 18 and December 6, 2002.

William Winkenwerder, Jr., MD, MBA
Assistant Secretary of Defense for Health Affairs
Office of the Assistant Secretary of Defense for Health Affairs

LTG James B. Peake, MC, USA
The Surgeon General
United States Army

VADM Michael Cowan, MC, USN
The Surgeon General
United States Navy

LtGen George “Peach” Taylor, USAF, MC
The Surgeon General
United States Air Force

Richard Carmona, MD, PhD
US Surgeon General
Department of Health and Human Services

Robert Roswell, MD
Under Secretary for Health
Department of Veterans Affairs

Robert F. Karnei, MD
Wythe County Community Hospital
Wytheville, VA

Scientific Advisory Board

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THE CHARTER FOR THE AFIP SCIENTIFIC ADVISORY BOARD states that the basic term of office of civilian members shall be two years and that no civilian member may serve more than two terms in succession; it further states that terms shall be staggered to provide a rotating membership. The Board meets at the call of the Director, AFIP, to advise him on scientific and technical matters. Board members are selected from outstanding specialists in their respective fields of medicine. The Board met May 23-24 and November 14-15, 2002.

Vernon W. Armbrustmacher, MD
City Medical Examiner II, Neuropathology
City of New York
Office of the Chief Medical Examiner
New York, NY

Corrie Brown, DVM
Professor and Head
Department of Veterinary Medicine
College of Veterinary Medicine
The University of Georgia
Athens, GA

Cecilia M. Fenoglio-Preiser, MD
MacKenzie Professor and Director
Department of Pathology
College of Medicine.
University of Cincinnati
Cincinnati, OH

A. Julian Garvin, MD
Professor and Chair, Pathology
Wake Forest/Bowman Gray School of Medicine
Winston Salem, NC

Jeffrey A. Kant, MD, PhD
Professor, Pathology and Human Genetics
University of Pittsburgh Medical Center
Pittsburgh, PA

Beverly P. Nelson, MD
Department of Pathology
Northwestern Memorial Hospital
Chicago, IL

William W. Olmsted, MD
Education Editor and Editor, RadioGraphics
Radiological Society of North America
Bethesda, MD

John E. Pless, MD
Professor of Pathology
Indiana University School of Medicine
Indianapolis, IN

Alan D. Proia, MD, PhD
Duke University Medical Center
Department of Pathology
Durham, NC

Victor E. Reuter, MD
Department of Pathology
Memorial Sloan-Kettering Cancer Center
New York, NY

Mary S. Richardson, MD
Director of Surgical Pathology
Department of Pathology and Laboratory
Medicine
Medical University of South Carolina
Charleston, SC

LeRoy Riddick, MD
Regional Medical Examiner
Mobile, AL

Fred G. Silva, II, MD
US & Canadian Academy of Pathology
Augusta, GA

Stanford Stass, MD
University of Maryland
Greenbaum Cancer Center
Baltimore, MD

Swan N. Thung, MD
Department of Pathology
Mount Sinai Medical Center
New York, NY

David H. Walker, MD
Professor and Chairman
Department of Pathology
University of Texas Medical Branch
Galveston, TX

Ronald S. Weinstein, MD
Professor & Head, Department of Pathology
University of Arizona
College of Medicine
Tucson, AZ

Ex Officio Members of the SAB from the Federal Service

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MG Kevin C. Kiley

Commander, North Atlantic Regional Medical Command

Commander, Walter Reed Army Medical Center

Washington, DC

MG Lester Martinez-Lopez

Commanding General

Medical Research & Materiel Command

Ft Detrick, MD

COL Renata Greenspan, MC, USA

Chief, Department of Pathology & Area Laboratory Services

Walter Reed Army Medical Center

Washington, DC

Col Paul B. Christianson

Vice Commander, Air Force Medical Operations Agency

Officer of the Surgeon General

McLean, VA

Maj Mark P. Burton

Wilford Hall Medical Center

Department of Pathology/MTL

Lackland AFB, TX

CDR William O. Rogers

Naval Medical Research Unit 3

Ghana Det

Department of State

Washington, DC

LTC Elspeth Cameron Ritchie

Program Director, Mental Health Policy & Women's Issues

Office of the Assistant Secretary of Defense (Health Affairs)

Falls Church, VA

Robert M. Friedman, MD

Professor and Chairman, Department of Pathology

Uniformed Services University of the Health Sciences

Bethesda, MD

Kenneth Olden, MD

Director, OD/NIEHS/NIH (B2-01)

Research Triangle Park, NC

Alan S. Rabson, MD

Director, Division of Cancer Biology & Diagnosis

National Cancer Institute

National Institutes of Health

Bethesda, MD

Fred H. Rodriguez, Jr, MD

Chief, Pathology & Laboratory Medicine Services

VA Medical Center

New Orleans, LA

Sherif R. Zaki, MD, PhD

Infectious Diseases Pathology

Centers for Disease Control & Prevention

Atlanta, GA

AFIP Key Personnel

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Glenn N. Wagner, CAPT, MC, USN
The Director, AFIP

Florabel G. Mullick, MD, ScD, SES
Principal Deputy Director
Director, Center for Advanced Pathology

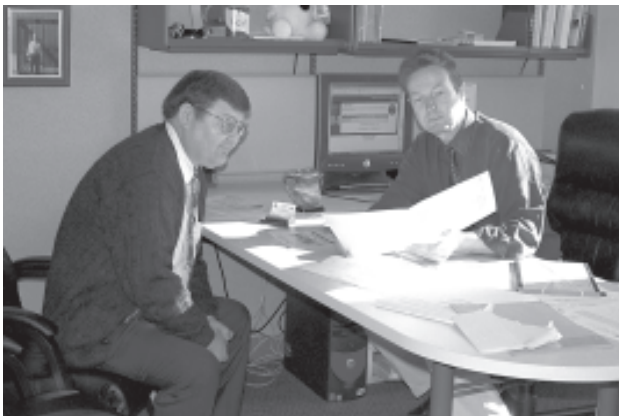
Charles W. Pemble III, Col, USAF, MC
Deputy Director, Air Force

Adrianne Noe, PhD
Director, National Museum of Health and
Medicine, AFIP

William A. Gardner, Jr, MD
Executive Director
American Registry of Pathology













Glenn N. Wagner, CAPT, MC, USN
The Director
Date of Appointment — 4 June 1999



OFFICE OF THE DIRECTOR

Penny L. Rodriguez
Executive Administrator
Date of Appointment – November 1999

Gricelda Eralte-Perez, SGT, USA
Administrative Assistant

MISSION

The mission of the Armed Forces Institute of Pathology (AFIP), dictated in public law 94-361, 1976, is to provide pathology expertise in consultation, education, and research in medicine, dentistry, and veterinary medicine to the Armed Services and the American public. AFIP is the pathology reference center for the Departments of Defense and Veterans Affairs, and provides a wide range of products and services in partnership with the American Registry of Pathology (ARP).

The AFIP's strength is based on a foundational triad of world-class professional expertise, the national tissue repository and archive of over 3 million accessioned cases, and multiple collaborations in government, industry, and academia. The unique public/private partnership provides a global constituency with unprecedented health care delivery, based on maximum access, quality, and cost containment. In 2002, the AFIP provided approximately 100,000 consultations, including 48,000 cases for second opinion, 25,000 Air Force Pap smears, and 10,000 cases received for risk management and utilization review. The Institute receives approximately 20,000 civilian consultation cases annually. The majority of its educational services are civilian-focused. The Institute provided over 500,000 hours of education and training, including 100,000 hours of continuing medical education (30,000 hours to military personnel). The Institute sponsors 7 pathology residencies (5 medical, 1 dental and 1 veterinary), as well as numerous fellowships in forensics, neuropathology, dermatopathology, hematopathology, and pulmonary pathology. In 2002, the AFIP had over 300 approved research protocols, a growing number of which were externally funded, and had ongoing research programs in basic science, environmental pathology and toxicology, geographic and infectious disease pathology, oncology, molecular diagnostics, and forensic science. All approved protocols have military relevance; most have civilian applications. As evidenced in departmental reports, AFIP staff published a significant number of refereed journal articles in 2002.

ORGANIZATION

The AFIP is the largest Field Operating Agency of the Army's Office of the Surgeon General (OTSG). It is administered through a Directorate composed of the Director and 2 service Deputy Directors, one of which is designated Principal Deputy Director. The Directorate is appointed by recommendation of the AFIP Board of Governors (BOG), chaired by the Assistant Secretary of Defense for Health Affairs and representing the entire federal healthcare system. The Directorship rotates every 4 years between the Army, Navy, and Air Force.

Captain Wagner assumed the Directorship in June 1999. Colonel Charles W. Pemble, USAF, DC is Air Force Deputy Director and Director of Field Operations. Florabel G. Mullick, MD, ScD, SES IV is the Army Deputy Director and Principal Deputy Director. Adrienne Noe, PhD, Director of the National Museum of Health and Medicine, is also Associate Director of the AFIP, and LTC Larry Shaw, MS, USA is Chief of Staff for Administration.

The Directorate (including Associate Directors, Chief of Staff for Administration, and the Executive Director of the ARP, Dr. William Gardner, who replaced Dr. Donald West King in August 2002), constitute the AFIP's Executive Steering Committee, supported by the Office of Legal Counsel, Office of Strategic Planning, and PAO and First Sergeant. AFIP organizational elements that respond directly to the Office of the Director include the National Museum of Health and Medicine, Office of Clinical Laboratory Affairs, Patient Safety Program, Office of Strategic Planning, Office of Legal Counsel, and the Joint Committee on Aviation Pathology (secretariat).

The Director

The Office of the Director oversees the administration of the AFIP and its compliance with the authority and guidance of the AFIP BOG and the Institute's Executive Agent, the US Army. Captain Wagner chairs the DoD Automated Central Tumor Registry Oversight Committee, the Joint Committee on Aviation Pathology (JCAP), and the Joint Laboratory Working Group.

Captain Wagner is credentialed and privileged in forensic pathology as a member of the Office of the Armed Forces Medical Examiner and Deputy Medical Examiner. He continues to provide requested consultations in forensic medicine, especially in pediatric pathology, aerospace pathology, and trauma biomechanics. He lectures widely on forensic issues and participates in the development of funded research protocols. Captain Wagner is an Adjunct (Clinical) Professor of Pathology at the Uniformed Services University of the Health Sciences, lecturing on forensic medicine to the Departments of Military Medicine, Preventive Medicine, and Pathology. He also lectures at AFIP courses in basic forensic sciences and at anatomic review seminars.

American Registry of Pathology

ARP has a unique relationship within the AFIP structure. It represents professional organizations sponsoring registries of pathology and allied health sciences at the AFIP, is incorporated into the structure of the Institute's professional departments and elements, and permits global access to AFIP resources. As the Institute's avenue to civilian medicine, ARP facilitates the Institute's consultation, education, and research activities in civilian medicine. Initially established in 1930 as an arm of the National Research Council, National Academy of Science, ARP became an established component of the Army Medical Museum in 1937 and continued to be a public entity until 1976, when Congress changed its status to a DC 501(c)3 corporation and sanctioned its partnership with the AFIP. ARP sponsors the Institute's CME programs and fellowships, and markets the Institute's scientific publications. Approximately one third of the AFIP's professional staff are ARP contract personnel. In 2002, ARP consisted of 42 registries.

National Museum of Health and Medicine

The Museum is uniquely positioned to advance community awareness of the Institute and military medicine. In hosting its first full year of monthly health fairs in 2002, the Museum extended its reach as a strong community asset and enhanced return visitation by providing approximately 100,000 annual visitors with fresh activities and information each month. Every year, a growing number of visitors appreciate the AFIP's contributions to military medicine and medical research. The Museum also pursues business activities, often in partnership with ARP, that address multiple goals. The new Gift Shop provides a convenient service to employees of the Institute and WRAMC, markets the Museum's programs, enhances our mission by providing materials that supplement our exhibits, and generates revenue.

ISSUES FACING THE AFIP

The OTSG has considered transferring the AFIP in whole or in part to another federal agency, such as HHS. The National Library of Medicine, originally the Army Surgeon General's Library, is used as an example of this kind of transfer. The proposed transfer of the AFIP to NIH as the National Institute of Pathology was based on the Institute's continuing support to NIH, particularly the National Cancer Institute, and expanded homeland defense missions. However, the recent establishment of a Cabinet-level Department of Homeland Security has diminished the chances of a move to the HHS. Other options include a merger with another DoD entity such as the Uniformed Services University of Health Sciences (USUHS) or a reduction in the current AFIP mission to a more DoD (DHP) requirement. Recapitalization remains a key unresolved

issue. The cost of renovation and new construction for the AFIP has been a major determining factor in its ongoing in-depth review as a line item in 3 sequential Program Decision Memoranda (PDMs). Architectural engineering assessments of the AFIP's needs, based on its current mission and required infrastructure, is 620,000 square feet (SF), preferably consolidated in one building complex or on a single campus.

The best location for the AFIP has been a topic of discussion with the BOG since 1995. Criteria were developed for location assessment by Tobey and Davis, contract architectural engineers for the US Army Health and Facilities Planning Agency (HFPA) for BOG review. BOG guidance included the following: 1) Geographic proximity to WRAMC and NNMCMC as their respective service flagships in support of tertiary care and shared residency/fellowship programs, especially in DoD-sponsored programs such as breast and prostate cancer centers. 2) Collaborative programs in urological pathology, dermatopathology, hematopathology, orthopedic and soft tissue pathology, hepatic and gastrointestinal pathology, ophthalmic pathology, otolaryngic and endocrine pathology, pediatric pathology, neuropathology, cardiovascular and pulmonary pathology, and nephropathology. 3) Geographic proximity to the USUHS, where a significant number of AFIP staff hold adjunct faculty positions. 4) Geographic proximity to service headquarters, the Pentagon, and OASD (HA). 5) The continuing need for a military personnel infrastructure provided by Bolling AFB (USAF), WRAMC (USA), and NNMCMC (USN). The assigned DVA personnel at the AFIP are from the Washington, DC VAMC Table of Distribution and Allowances (TDA). 6) Historical and ongoing collaborative efforts within the community in government, academia, and industry as a result of 140 years of service. 7) Competitive cost benefit. Tobey and Davis found no appropriate single lease space for an entire AFIP facility (620,000 SF) on commercial property in the National Capital Area. Government spaces considered included NNMCMC, WRAMC, and White Oak. WRAMC was the preferred location because of the existing Building 54 (slated for renovation). Thirteen acres on the main campus, currently used as senior military housing, were proposed for a new 420,000 SF AFIP building, consolidating AFIP services currently housed in 9 buildings in 5 locations. A recent evaluation of a West Virginia option placed the cost at \$500M for a facility of approximately 1.2M SF. However, the AFIP enjoys a number of benefits as a WRAMC tenant, which would need to be addressed if the Institute were moved to another location.

The future of the Institute and its recapitalization are current PDM items. One of our major goals is to transform the AFIP to make it more military-relevant. Several models are being considered, based largely on fiscal constraints and options, along with the Institute's mission, size, location, and budget. The AFIP is committed to making DoD requirements funded by DHP a priority, and to seeing that services provided by the Institute are complementary, rather than competitive, with activities provided by other entities within the MHS. Our resources are focused on 1) Force Health Protection issues through forensic sciences, infectious diseases, and comprehensive laboratory-based surveillance (biosurety, mortality registry, environmental and toxicologic pathology, veterinary pathology), and 2) MHS Quality of Life concerns, including consultative surgical pathology expertise, the DoD Patient Safety Center, the DoD Automated Central Tumor Registry, and participation in the US Military Cancer Institute's multi-institutional efforts. Our goal is to reduce the DHP funding requirement and acquire alternative funding and revenues on a reimbursable basis for all activities that are not necessary components of the MHS.



Stephen W. Bross, LTC, JA, USA
Legal Counsel
Date of Appointment — 3 July 1998



OFFICE OF LEGAL COUNSEL

MISSION

The Office of Legal Counsel provides legal advice and assistance to the Director and staff of the AFIP.

STAFF

Stephen W. Bross, LTC, JA, USA, Legal Counsel
Penny L. Rodriguez, Legal Assistant (part-time)
SSG Gricelda Eralte-Perez, Legal Assistant (part-time)

The legal assistant is a notary public available to Institute staff for all official business requiring notarization. Notary services are also provided to military personnel and their dependents for any legal matters requiring notarization.

ACCOMPLISHMENTS

In 2002, the Office of Legal Counsel provided the Director and staff of the AFIP with a broad range of legal services, including the following:

- Legal Counsel provided a variety of services to the Institute as part of its business planning and transformation initiative. Chief among them was drafting a proposed revision for 10 USC 176, the Institute's authorizing legislation, to expand the authorities of the Institute in its relations with civilian medicine and to add legislative changes supporting various elements of the business plan. This also provided an opportunity to address such issues as developing a clear statement of the Institute's mission and purpose in the statute, enabling the Armed Forces Medical Examiner and others to assist civilian authorities with expert testimony, ensuring the coverage of Distinguished Scientists under the Federal Tort Claims Act, and providing the Director with express authority to accept gifts to the Institute. The initiative is making its way through the DoD's legislative process. The Legal Counsel has also studied the issue of access to the Institute's tissue repositories by civilian medicine and the financial considerations, privacy aspects of the time-reporting system being implemented, and the fiscal mechanisms by which the Institute could more directly interact with civilian medicine for services. We continue to carefully monitor the costs of providing services under Economy Act arrangements with other federal agencies to ensure that AFIP complies with the Act and to support heightened attention to care and precision in measuring and accounting for costs of doing business.
- Legal Counsel provided significant input on the development of DoD Instruction 5154.30, the DoD implementing guidance for AFIP that supports DoD Directive 5154.24. Among other things, the instruction provides DoD-level guidance to judge advocates on the scope of support by the OAFME to defendants in courts-martial, a matter of prior and continuing concern to the Medical Examiner. The Instruction is an evolutionary upgrade of the guidance for AFIP and provides useful direction in many areas of operation at AFIP not previously addressed.
- Legal Counsel, in ongoing coordination and consultation with the Executive Committee

and the American Registry of Pathology (ARP) and its counsel, finished the primary staff work and negotiation related to the extended annual review of the September 2000 AFIP-ARP Memorandum of Understanding (MOU) pertaining to cooperative enterprises. This effort provided annexes for the National Museum of Health and Medicine and its Museum Gift Shop, and for “fee for service” activities conducted in various departments that cannot be managed as conventional consultation cases. It also implemented recommendations of the Army General Counsel concerning gifts, clarified Privacy Act applicability to ARP and its employees as a contractor, provided a mechanism for receiving payments volunteered by outside sources for speaking activities by staff, and updated provisions for Distinguished Scientists in areas of liability, insurance, ethics, and conflicts of interest, among other changes. The revised agreement was signed in June 2002.

- Legal Counsel provided the OAFME with substantial support on a variety of matters:
 1. Interaction with Congressman Culberson and the DoD General Counsel’s office in the formulation of a statute (10 USC 1565a) that codifies the rule of federal court access to DNA samples in the DNA Repository for investigation and prosecution of felonies.
 2. Liaison with the DoD Director of Military Support to enable DNA support to Georgia authorities in the investigation of the malfeasance at the Tri-States Crematory.
 3. An agreement with the FBI for analysis of terrorist DNA, a relatively complicated undertaking with unexpected legal and policy issues and extensive DoD coordination.
 4. A briefing for military visitors from Singapore on privacy aspects of DNA specimen collection and analysis.
 5. Initiation of a dialogue with Army Litigation Division for clarifying the extent to which members of the Medical Examiner’s staff can provide expert testimony in state and local law enforcement matters.
 6. Advice on the interplay of authority between the Medical Examiner and combatant commanders in the investigation of deaths of service members.
 7. Further development of the analytical principles by which AFIP and the DNA Repository determine the propriety of access by external authorities to DNA bloodstain cards in the investigation of deaths.
 8. Advice with respect to the propriety of OAFME support to deaths of foreign service members and nationals.
 9. Procurement of favorable clarification from the Department of the Army on the relationship of Medical Examiner activities to the Posse Comitatus Act.
- Legal Counsel coordinated numerous requests to interview and depose Institute staff in connection with private litigation, or to obtain patient information relevant to litigation, and represented Institute and DoD interests at such interviews and depositions while also advising the staff members providing testimony. In one case this involved coordination of testimony from a former employee on events that occurred over 10 years ago.
- Legal Counsel acted as liaison to the Army Litigation Division and the Department of Justice (DoJ) with regard to pending tort claims and litigation:
 1. Throughout the year, Legal Counsel provided support to DoJ in an ongoing medical malpractice tort claim that has progressed to federal litigation, in which the United States has been substituted for a contract employee who was a party to the lawsuit. This has been a heavily litigated matter for DoJ involving extensive background support on contracts and other matters.
 2. Legal Counsel provided support to Army Litigation Division and DoJ in anthrax vaccine litigation involving BioPort with regard to personnel previously assigned to AFIP at a time when studies of putative vaccination victims were being performed.
 3. The office provided support to Army Litigation Division and DoJ for document production for federal litigation surrounding a ski-train fire in Kaprun, Austria, which involved DoD personnel and DNA analysis.
 4. The office began the coordination process to permit an AFIP doctor to provide support to private litigants who are also federal employees and whose court case could, if successful, provide a financial benefit to the United States in terms of medical care cost recoveries.
 5. The office provided support to DoJ in the procurement of autopsy reports and other information in the federal prosecution of John Walker Lindh.

6. The office provided coordination support to the Immigration and Naturalization Service in a forensic age-determination case for a youthful detained alien.
- As the Institute's designated agency ethics official and ethics counselor, the Legal Counsel provided ethics training, prepared written and oral opinions and advisory letters for the Institute leadership and individual staff members, and managed the financial disclosure reporting required of certain staff members under the Joint Ethics Regulation.
 - Legal Counsel provided advice on several copyright, licensing, software and nondisclosure issues, including one complicated software licensing issue involving an existing contractual relationship for production of the software that contained anomalous provisions. One invention that originated at AFIP and for which a patent is pending has already been licensed, and AFIP began to receive royalties this year. In the technology transfer area, Legal Counsel succeeded in establishing the Medical Research and Medical Command as our supporting next-higher headquarters for intellectual property matters, and received from the Surgeon General a delegation of authority to the AFIP Director to enter into cooperative research and development agreements and patent and other licenses. That authority has been exercised to enter into one such CRDA and a variety of material transfer agreements and software licenses. The program is evolving and has the potential to provide important support to the business plan.
 - Legal Counsel provided routine legal advice and guidance on the day-to-day work of the Institute in such areas as:
 1. Memoranda of agreement with other agencies for provision or exchange of technical and/or educational services, and agreements with nonfederal and foreign entities pertaining to research, education, and training.
 2. Requests by outside parties for access to patient records and tissues.
 3. Civilian and military personnel administration, discipline, and investigations.
 4. Offers by outside sources to pay employees' travel expenses.
 5. Proposed revisions to Institute regulations.
 6. Military administrative law matters.
 7. Contract administration and procurement law matters.
 8. Fiscal law matters, including the structure of reimbursable operations.
 9. Issues specific to the operation of the National Museum of Health and Medicine.
 - Matters of particular note include:
 1. Support in responding to an inquiry by Congressman Kanjorski about our revised policies for admittance of foreign nationals to AFIP courses in light of the events of September 2001.
 2. Extensive support to the Institute's development of HIPAA procedures, including responses to requests for business associate agreements and analysis of various issues arising under the HIPAA privacy rule.
 3. Support to the proponents of a landmine injury study, involving analysis of state laws and federal research rules pertaining to cadavers.
 4. Support to DoD in the form of drafts of a SOUTHCOM detainee mental health provider information access policy.
 5. Assistance with legislative authorities in procuring contract security guards.
 6. Guidance on random searches of visitors and employees.
 7. Processing of a request for slides pertaining to former President Eisenhower.
 8. Guidance on installation and use of defibrillators at AFIP.
 9. Review and guidance on an offer of donation of a microscope collection.
 10. Guidance on an instance of military personnel misconduct.
 - Legal Counsel provided an update on AFIP operations to the Assistant Judge Advocate General of the Army under the provisions of Article 6, Uniform Code of Military Justice.

GOALS

1. Refine and improve the 2002 update to the MOU between AFIP and ARP governing cooperative enterprises, Distinguished Scientists, and provision of space, facilities, and equipment, in line with evolving business practice improvements.
2. Continue to provide clear guidance on AFIP/ARP relations, based on the historical

record of such guidance in the past and a legally supportable construction of the statutes, as well as an appreciation for the extent to which the AFIP/ARP statutory authorities provide a legitimate basis for preemption of competing government rules and policies affecting the Institute.

3. Support the business planning and transformation effort with timely legal advice.
4. Support HIPAA implementation and compliance.
5. Expand and develop the technology transfer program and the use of cooperative research and development agreements.
6. Develop intellectual property opportunities and carry filed patent applications forward to grant of patent and licensing of technologies.
7. Emphasize government ethics responsibilities and ensure that ethics oversight is effective, efficient, and minimally burdensome for affected staff.
8. Refine the utility and accessibility of office historical resources and move toward eventual management via electronic document storage.
9. Refine the functionality and management capabilities of office automation resources to provide better action and opinion management and access.

Donna M. Roncarti, Col, USAF, BSC
Director
Date of Appointment – 1 September 2002



CENTER FOR CLINICAL LABORATORY MEDICINE

MISSION

The Center for Clinical Laboratory Medicine supports the mission of the AFIP in the following ways:

- Directs the operation of the DoD Clinical Laboratory Improvement Program, as defined by DoD Instruction 6440.2 and Public Law 100-578 (Clinical Laboratory Improvement Act).
- Administers public law and federal policy for military medical laboratory operations, ensuring the ongoing function of laboratory services in peace, contingency, and wartime.
- Determines policy that provides guidance for all military medical laboratory operations in the DoD.
- Directs the activities and operating budget of over \$3.5 million annually for office administration and component central contracts for medical laboratory proficiency testing, accreditation, and inspections.
- Resolves situations where public or state law is in conflict with DoD policy.
- Responds to congressional, military, or public inquiries relative to laboratory services.
- Reviews laboratory operations data, including proficiency testing results, accreditation, and regulatory inspection results.
- Coordinates laboratory technical assistance and intervention strategies among DoD laboratories.
- Provides consultative services and impact analysis on clinical laboratory issues to the Director of the AFIP, the service Surgeons General, and the Office of Assistant Secretary of Defense for Health Affairs.
- Provides professional and management guidance to DoD laboratory officers and enlisted members.
- Cochairs the DoD Laboratory Joint Working Group (LJWG).
- Serves as gatekeeper for Tri-Service and CDC initiative to develop a biological warfare detection and response system (National Laboratory Response Network).

STAFF

Donna M. Roncarti, Col, USAF, BSC, Director
Brenda Bartley, CDR, MSC, USN, Associate Director
William H. Boisvert, LTC, MSC, USA, Associate Director
Denise T. Green, Maj, USAF, BCS, Deputy Director, Office of Laboratory Management
Judy Layden, SMSgt, USAF, Superintendent
Dennis A. Lahl, HMC, USN, LCPO, Navy CLIP Program Manager
Jacqueline M. Bryant, SSG, USA, Army CLIP Program Manager
Yvonne Easley-Haley, TSgt, USAF, Clinical Laboratory Management Indicator Program

EDUCATION

Presentations and Seminars: Department staff made 16 presentations at workshops or seminars, representing 350 man-hours.

ACCOMPLISHMENTS

- DoD laboratory registration statistics as of December 31, 2002:
 1. Army: 704 certificates with 1,413 sites
 2. Army: 704 certificates with 1,413 sites
 3. Navy: 519 certificates with 886 sites
 4. Air Force: 394 certificates with 878 sites
- Developed and sustained CDC and Tri-Service Laboratory Response Network (LRN) Partnership Initiative. The purpose of the LRN is to rapidly detect and identify biological threat agents and to alert public health and law enforcement agencies of a suspected release to minimize exposure to that agent. CCLM functions as the coordinating office for DoD participation in the LRN, as directed by the 3 service Surgeons General. As coordinator of DoD laboratory network participation, CCLM must communicate, implement, and ensure compliance with all changes in federal law regarding handling of selected agents, specimen collection and testing protocols, and maintenance of proficiency by DoD network labs. To assist with communication/coordination responsibilities, CCLM made the update of LRN progress, activities, and issues a standard agenda item at the biannual Laboratory Joint Working Group meetings. Each service gatekeeper reported on the progress of their network laboratories and their concerns. Issues were presented and discussed in a Tri-Service forum. The DoD LRN gatekeeper also briefed changes to national response plans, federal laws, and guidelines. CCLM chaired the meeting of the AF BT working group in December 2002, which led to the establishment of a proficiency testing program for AF Homeland defense laboratory response teams and biological augmentation teams, rules to govern the selection of AF Level B confirmatory labs, and guidance for further expansion of the AF LRN capabilities. At the close of 2002, DoD had fielded 1 Level D, 2 Level C, 12 Level B and 142 Level A LRN laboratories at CONUS and OCONUS locations.
- Saved over \$1 million annually in registration and inspection fees. CCLM avoided in excess of \$10 million in fees to the Center for Medicare and Medicaid Services (formerly the Health Care Financing Administration) since inception of the program in 1993.
- Proficiency Testing (PT): All registered laboratories performing moderate- and/or high-complexity procedures were enrolled in centralized service-specific contracts during 2002. CCLM reviewed over 7,650 PT surveys for 2002. There were approximately 136 testing events out of 24,000 where labs performed unsatisfactorily, and CCLM performed required review of corrective actions taken.
- Accreditation: DoD laboratory facilities are accredited by the College of American Pathologists (CAP), the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), or the Commission on Office Laboratory Accreditation (COLA). Each facility is inspected every 2 years, and results of inspections are forwarded to CCLM for review.
- Laboratory Joint Working Group (LJWG): The center cochairs and facilitates this committee consisting of service laboratory medicine and pathology consultants, health affairs representatives, and an appointed laboratory representative from each TRICARE region. The LJWG facilitated DoD-wide referral laboratory contracts to reduce reference laboratory utilization costs and explored initiatives to consolidate DoD testing sites to reduce reagent, supply, and other direct operational costs where feasible. Flow cytometry was identified as a prime candidate for consolidation of testing to DoD regional medical centers. Center personnel are members of these subcommittees: DoD benchmarking for laboratories, CHCS interconnectivity, and reference lab utilization analysis/testing service consolidation.
- Laboratory Composite Health Care System (CHCS) Interconnectivity: Participated in an ongoing working group to establish requirements, initiate the contracting process, and test the software developed to allow laboratory CHCS interconnectivity between DoD facilities, DoD and VA facilities, and DoD and civilian reference laboratories. The project was funded at \$2.5 million by OASD (HA). Formal testing of the interconnectivity software product was successfully conducted throughout 2002. Alpha testing is scheduled for early 2003 and, if successful, deployment of all software modules will immediately follow.

- DoD Laboratory Standard File Committee: The center chairs the committee that maintains and updates the Laboratory Standard File in CHCS. The standard file contains the approved test name nomenclature and logical observation identifier names and codes (LOINC), which will be used for host-to-host communication as part of the DoD laboratory interconnectivity project. The committee provides periodic standard file updates to the CHCS contractor for implementation, and also maintains the current version on the Office of Clinical Laboratory Affairs web page. The laboratory standard test file has been adopted by all DoD laboratories to pave the way for use of the lab interconnectivity software.
- CCLM led the effort to adopt use of American Medical Association-approved Current Procedural Terminology (CPT) panel codes by October 2002 in preparation for the loading of the CHCS Outpatient Itemized Billing Module, which will enhance third-party collection and allow Medicare to be billed for outpatient services provided by military treatment facilities.
- Participated in the DoD Newborn Screening working group chartered to examine differences in newborn screening test protocols in use throughout DoD medical treatment facilities (CONUS and OCONUS), benchmark against the developing civilian standards of care, and determine the feasibility of adopting standard neonatal testing protocols and methodologies across the military health system. CCLM developed a relational database to help analyze protocols in use, tests performed, testing sources, common test methodologies, and prevalence of neonatal Hgb S screening provided by medical treatment facilities and coordinated by DoD clinical laboratories. Work is ongoing to establish a standardized testing protocol and implement standard of care test methodologies across DoD to support our youngest beneficiaries.
- Participated in the development of a DoD Blood Program strategic plan to consolidate 50% of the blood program infrastructure.
- Revamped the AF Readiness Skills Verification Program; streamlined and simplified the associated training task list, and made it easier to target appropriate training to personnel assigned to specific UTCs.
- Expediently notified all DoD laboratories and service logistics centers of reagent manufacturing and equipment problems during the past year.
- Assisted in the initial organization of the CHCS II COTS acquisition working group and provided leadership as a member of the group and representative to the FIWG. The working group developed the requirements for the acquisition of a commercial off-the-shelf (COTS), fully integrated anatomic pathology/clinical laboratory information system to replace the legacy CHCS lab module on the CHCS II platform. Additionally, the group developed the scorecard to be used to assess the products of competing vendors, and put together teams who will assess the functional capabilities of the systems demonstrated by potential contractors. The RFP is scheduled for release in early 2003.
- Participated in the DoD smallpox preparedness conference to help develop guidelines for establishment of smallpox epidemiological response teams (SERTs), review and analyze proposed smallpox response plans, and share information about vaccination procedures/contraindications/adverse reactions, outbreak control, disease treatment/supportive care in the event of a local or multifocal BT event.

PRESENTATIONS

1. February 2002: Washington, DC, Laboratory Joint Working Group, "Global laboratory information transfer, CHCS clinical laboratory/APCOTS migration, and application service providers," T Robillard, RG Craigmiles.
2. February 2002: Washington, DC, Laboratory Joint Working Group, "Review of LJWG charter and goals," BH Mapp.
3. February 2002: Washington, DC, Laboratory Joint Working Group, "LRN update," F Kneisel, RG Craigmiles.
4. February 2002: Washington, DC, Laboratory Joint Working Group, "AF RAPIDS combat mission needs statement," DR Brown.
5. March 2002: Spokane, Wash, Society of Armed Forces Medical Laboratory Scientists Meeting, "Clinical laboratory management skills," L More, DR Brown, S Novak, M Caldwell, P Barnicott, P Simon, K Robinson.
6. March 2002: Spokane, Wash, Society of Armed Forces Medical Laboratory Scientists

Meeting, "Biomedical laboratory consultant's update to USAF laboratory officers," DR Brown.

7. March 2002: Spokane, Wash, Society of Armed Forces Medical Laboratory Scientists Meeting, "Laboratory accreditation: tools and resources available to avoid the unexpected hurdles," D Lahl, R Rodriguez.
8. June 2002: Sheppard AFB, Tex, Biomedical Officer Management Orientation Course, "The ins and outs of workload recording," "Clinical laboratory management indicators," "Laboratory Joint Working Group," "Laboratory standard cost methodology," "Downsizing: a model to help you cope," "Management topics," DR Brown, BH Mapp.
9. August 2002: San Diego, Calif, Laboratory Joint Working Group, "Update of LJWG charter," DT Green.
10. August 2002: San Diego, Calif, Laboratory Joint Working Group, "Global information transfer and laboratory standard file update," RG Craigmiles, T Robillard.
11. August 2002: San Diego, Calif, Laboratory Joint Working Group, "Laboratory Response Network overview," F Kneisel, W Boisvert.

PUBLICATIONS

1. Brown DR. Consultant's corner. *Society Scope*. Society of Armed Forces Medical Laboratory Scientists Newsletter. Winter 2002;5:1.
2. Mapp BH. Editor's comments. *Society Scope*. Society of Armed Forces Medical Laboratory Scientists Newsletter. Summer 2002;5:2.
3. Brown DR, Wilson S, eds. *The Sum of All Fear: A Compendium of Laboratory Management Topics and Issues*. 2002. Self-published.
4. Roncarti DM. Consultant's corner. *Society Scope*. Society of Armed Forces Medical Laboratory Scientists Newsletter. Fall 2002;5:3.

GOALS

1. Coordinate with national clinical laboratory accrediting agencies to resolve any issues that impact the accreditation of DoD laboratories.
2. Provide consultation to the Armed Service Blood Program Office on restructuring and consolidation issues.
3. Be a resource for information on the development of biological warfare agent identification procedures, biosurety and select agent handling rules, and the development/oversight of PT testing program for Level A and Level B confirmatory labs.
4. Provide support for the establishment of field-deployable equipment/supply requirements.
5. Provide backfill support to a smallpox epidemiology response team if operations officer services are required.
6. Review and analyze DoD reference laboratory utilization patterns to identify candidate tests for diversion to cost saving DoD testing facilities.
7. Support the continued development and evolution of the Laboratory Joint Working Group.
8. Attend the Society of Armed Forces Medical Laboratory Scientists meeting in March 2003. Present the status of CLIP registration, identify problem areas, outline the long-term plan, and identify anticipated changes made by CLIAC.
9. Educate members of the DoD laboratory community on Laboratory Joint Working Group projects and issues – continue to post all meeting minutes and project status briefings on the CCLM Web site.
10. Initiate quarterly publication of the CCLM newsletter, including publication on the Web.
11. Work with services' training programs to promote understanding of CLIP, laboratory cost accounting, CPT and MEPRS, accreditation, proficiency testing, benchmarking initiatives, bio-terrorism response plans, biosurety and the use of the lab bioterrorism response network.
12. Participate in monthly AF/SG VTCs.
13. Expand the scope and content of the current BSC lab Web site to function as the Web site for the Center for Clinical Laboratory Medicine with AF BSC, Army and Navy lab community/consultant subcomponents, and establish BT/CT Infocenter.
14. Support the continued testing and deployment of the CHCS interconnectivity software within DoD laboratories, between DoD and VA, and between DoD and civilian reference

laboratories.

15. Provide support for the acquisition of the CHCS II COTS lab/anatomic path system as a member of the acquisition team and FIWG representative.
16. Support the adoption of standardized neonatal screening test protocols and methodologies, congruent with civilian standards of care, throughout the MHS.



Paul Bluteau, MA
Director
Date of Appointment—23 January 2001



OFFICE OF STRATEGIC PLANNING

MISSION

The staff of the Office of Strategic Planning (OSP) is a specialized, committed team of senior executives and administrative analysts formed to assist the AFIP leadership in areas of strategic planning for improved performance and master facility planning. The staff advises and supports the Director and Principal Deputy Director of the AFIP by:

- Developing and implementing a strategic plan.
- Formulating and advising on the implementation of a business plan and supporting implementation of reengineering strategies within AFIP.
- Coordinating and integrating performance improvement throughout the Institute.
- Reviewing current budgetary and resource management systems, identifying areas for improvement and reengineering, and assisting in the development and implementation of a new resource management and budget process for AFIP.
- Facilitating and overseeing reengineering activities supporting pathology consultation, education, and research within AFIP.
- Advising the Executive Committee on key issues affecting pathology consultation, education, and research within AFIP.
- Identifying opportunities for growth and developing annual business plans and marketing strategies.
- Coordinating the Master Plan for renovation and new constructions
- Serving as the Office of Primary Responsibility to the Surgeons General, Office of the Secretary of the Army, and Office of the Assistant Secretary of Defense for Health Affairs in all matters pertinent to the AFIP.
- Coordinating and monitoring DoD Inspector General audit reports for administration and management, and for control over case-related materials.

ORGANIZATION

The OSP is composed of executive strategic planners and an administrative analyst who directly support the Director and Principal Deputy Director. The staff serve as Executive Advisors to the Director, Principal Deputy Director, and the Executive Committee.

STAFF

Paul E. Bluteau, MA, Director
James L. Staiger, MD, Senior Strategic Planner
Mike F. Nola, PhD, Senior Resource Analyst
Cheryl D. Colbert, Administrative Analyst

IMPACT

1. OSP performed a variety of administrative functions in support of the AFIP in 2002, including:
 - Advising, consulting, and supporting the Director and Principal Deputy Director.
 - Monitoring implementation of the strategic plan.
 - Formulating and advising on the implementation of a business plan and supporting implementation of reengineering strategies.

- Coordinating and integrating performance improvement throughout the Institute.
 - Reviewing current budgetary and resource management systems, identifying areas for improvement and budget process.
 - Facilitating and overseeing reengineering activities supporting pathology consultation, education, and research.
 - Advising the Executive Committee on key issues affecting pathology consultation, education, and research throughout DoD.
 - Developing annual business plans and marketing strategies.
 - Assisting in coordination of the Master Plan for renovation and new construction.
 - Helping to facilitate the Pathology Millennium Follow-Up Conference.
2. OSP developed, through Tiger Team, a new business office for AFIP business plans and marketing strategies. We continued ongoing initiatives of brainstorming for continual improvement of business practices initiatives. We also previewed the Time Capture program, briefed TSG on Time Capture, and implemented Time Capture throughout various AFIP departments.
 3. OSP maintained ongoing strategic planning teams for consultation, personnel development, collaborations, case management, and facilities. We assisted the Principal Deputy Director with restructuring of CAP.
 4. Master Planning efforts continued toward insertion of funds into DoD's Program Objective Memorandum for military construction of a new AFIP facility and renovation of Building 54, or for acceptance of the ARP build-lease proposal for a new building. OSP continued to support WRAMC Department of Public Works, Army Corps of Engineers, Health Facilities Planning Agency, and contracted with architectural/engineering firms on the Main Section Master Plan, Urban Design Framework, and Section 106 Report, and served as liaison to HFPA and Department of the Army in support of obtaining funds for a new building. In addition, OSP facilitated, researched, and participated in Master Planning meetings and studies. Members of OSP traveled to West Virginia to evaluate potential sites for relocation of the AFIP.
 5. OSP coordinated Institute actions throughout the year in response to executive initiatives and command programs, and authored reports for the Office of the Surgeon General (OTSG), Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA (M&RA)), Department of Defense (Health Affairs) (DoD (HA)), the Board of Governors, and several DoD agencies. OSP supports performance improvement activities within AFIP, serving as consultant or active participant in the internal consultation computer system (PIMS), business practice review in various areas of the Institute, continued TDA revisions, and filling of vacant Navy Medical Service Corps and Medical Corps billets.
 6. OSP continued AFIP reengineering-performance improvement efforts in consultation and education. Working closely with OTSG, several reports were prepared describing internal savings realized through Institute efforts and acquisition of external funds through consultation, education, and research. Historical demographic data related to consultation cases and educational courses were collected and analyzed which assessed current status and supported future decisions related to consultation and education programs. Several reports and briefings were presented to various groups and the Board of Governors that relayed the Institute's progress and continuing plans in response to the 1998 Program Decision Memorandum directing the AFIP to collect full reimbursement for its services.
 7. OSP staff served as advisors to the Director, Principal Deputy Director, and the Executive Committee, prepared and gave multiple presentations to the Board of Governors, the Scientific Advisory Board, ARP Board, OTSG, ASA (M&RA), HFPA, and several DoD agencies related to OSP and AFIP functions and programs.
 8. Additional accomplishments include the following:
 - Chaired kick-off meeting with IMC regarding Scanning Historic Records Project.
 - Attended AFIP safety training.
 - Consulted in review of Command Climate Survey results and recommendations formulation.
 - Developed follow-up matrix for Command Climate Survey recommendations.
 - Attended Consultation Committee meetings ad hoc.
 - Site visit: Forest Glen repository buildings.
 - Site visit: Gillette Facility.
 - Updated OSP Mission Statement for Manpower Assessment Team.
 - Assisted data gathering for Manpower Assessment Team.

- Brainstormed for improved business practice initiatives.
 - Attended Activity Based Accounting meeting with AFDIL staff at Gillette.
 - Reviewed several previous studies, e.g., step-down accounting study, CAN, DoD and DoDI drafts, Dr. Bumgarner report.
 - Participated in Council of Colonels report data collection and editing.
 - Attended OSP/Dr. Mullick meetings with each department chair in Council of Colonels report data collection and review.
 - Networking: Health Affairs, BUMED, VA
 - AFIP Balanced Score Card implementation.
 - Attended AMEDD Directors Balanced Score Card seminar.
 - Provided Balanced Score Card briefings to OSP, Executive Committee, Info Management Support Council.
 - Co-facilitator/recorder Exec Comm Off-Site for Balanced Score Card Planning.
 - Prepared AFIP Balanced Score Card draft and updates.
 - Prepared monthly Exec Comm strategic planning agenda.
 - Drafted AFIP input to Info Paper: DoD/Army Collaborative Efforts with CDC.
 - Drafted update to Awards Committee charter.
9. Major Business Plan Initiatives:
- Identified the AFIP critical elements in support of DoD Health Care, developed a list of hurdles associated with Program Defense Memorandum study alternatives, constructed a list of required policy decisions at DoD level linked to Program Defense Memorandums, and developed a statement of work linked to PDM responses to submit to Health Affairs.
 - Identified and displayed AFIP intangibles and listed essential functions. Conducted an off-site for the Department of Infectious and Parasitic Diseases Pathology to develop a business plan prior to SAB.
 - Constructed the Virginia subsidization brief for the Board of Governors.

EXTERNAL SUPPORT

OSP assists the Chief of Staff for Administration with clerical and administrative taskings, and provides assistance to the Director's office in the absence of the Executive Assistant. OSP provides various kinds of administrative support to several departments within the Institute and WRAMC, such as:

Public Affairs

- Transcribe minutes for weekly and monthly meetings, including James Earle Ashe Lecture and Organization Day committees.
- Assist public affairs specialist with school tours.
- Assemble packets of AFIP brochures and pamphlets for exhibits and meetings for the Public Affairs Director.
- Handled media requests for videotapes of the 1918 Spanish Flu exhibit.
- Request photographs for the Public Affairs Office.
- Arranged packages of AFIP brochures and pamphlets for the quarterly Newcomers Briefing.
- Scanned electronic photographs for the *AFIP Letter* and the internal newsletter.
- Set up filing system for the Public Affairs videotape library.
- Request medical publications for medical education collaborators.
- Provided support to the AFIP EO/EEO program and EEO counselor and mediator for WRAMC.
- Interviewing, writing, and mediating cases.
- Present EEO brief during Newcomers Briefing.

Facilities Space Management Office

- Take minutes of meetings.
- Schedule Endocrinology appointments.
- Provide clerical and administrative taskings.

OTHER ACCOMPLISHMENTS

Collaborators:

MF Nola:

1. Participated in negotiation session with the VA.
2. Participated in discussions with the Jackson Foundation.

3. Rendered statistical advice to the Climate Survey Committee.
4. Rendered statistical advice to the Department of Medical Education liaisons between ARP and Forensic ID course director.
5. Assisted with data gathering for the Manpower Team.
6. Initiated business discussions with NIH, Carderock, Howard University, University of Maryland (Baltimore, College Park, University College).
7. Participated in preliminary discussion regarding ICD coding implementation.
8. Participated in meeting with KPMG regarding prospective contract.
9. Participated in meeting with IMC regarding statement of objectives and work for APC coding.
10. Participated in meetings with VA Tiger Teams.

Committees:

PE Bluteau:

1. Chair, Master Planning Committee
2. Member, Facilities Committee
3. Member, Consultative Committee, Accession Implementation Team Facilitator

JL Staiger:

1. Facilitator/Recorder, weekly Exec Comm Strategic Plan Thursday meetings
2. Recorder, Monday/Wednesday Director's Exec Comm
3. Facilitator/Recorder, Member, Collaborations Committee
4. Facilitator/Recorder, Member, Personnel Development Committee
5. Facilitator/Recorder, Member, HIPPA Compliance Committee
6. Facilitator/Recorder, Member, Information Management Support Council
7. Member, Recurring Data Elements Subcommittee
8. Member, Personnel Performance Standards Implementation Subcommittee

MF Nola:

1. Chair, Resource Advisory Council
2. Member, Collaboration Committee
3. Member, Recurrent Data Requirements Subcommittee
4. Member, Visual Illustrations Steering Committee
5. Member, Executive Committee
6. Member, Business Structure Tiger Team

CD Colbert:

1. Member, AFIP EO/EEO Program
2. Member, WRAMC EEO Program
3. Member, Ashe Lecture Committee
4. Member, Organization Day Committee
5. Member, District of Columbia Notary Public Society

Continuing Education:

CD Colbert:

1. June 2002, Mediation Training Institute
2. April 2002, Personal Computer Software Training (Access)

PRESENTATIONS

1. Prepared and briefed TSG on potential WV relocation.
2. The Office of the Surgeons General (3 to 4).
3. Scientific Advisory Board (2).
4. Co-facilitated follow-up working groups at LTG Peak's Millennial Conference, March 11-12, 2002.
5. Presented monthly Resource Advisory Council updates to the Executive Committee.
6. Proposal to the Executive Committee for a Sponsored Programs Office.
7. Proposal to the Executive Committee for a Decentralized Business Model.
8. Briefed Department Chairs meetings.
9. Participated in conference telephone discussion with ARP Board.
10. Presented report on feasibility of cytotech hires to the Principal Deputy Director.
11. Presented Agreement of Code Report to the Director.

CENTER FOR ADVANCED PATHOLOGY



Florabel G. Mullick, MD, ScD, SES, Director, CAP

CAP OPERATIONS

1

GROUP 1 — MUSCULOSKELETAL & REPRODUCTIVE DISEASES

Dermatopathology
Genitourinary Pathology
Gynecologic and Breast Pathology
Orthopedic Pathology
Soft Tissue Pathology

2

GROUP 2 — HEART, LUNG & AERODIGESTIVE DISEASES

Cardiovascular Pathology
Endocrine and Otorhinolaryngic/Head-Neck Pathology
Hepatic and Gastrointestinal Pathology
Oral and Maxillofacial Pathology
Pulmonary and Mediastinal Pathology

3

GROUP 3 — SPECIAL LABORATORY MEDICINE

Cellular Pathology and Genetics
Hematopathology
Neuropathology and Ophthalmic Pathology
Scientific Laboratories

4

GROUP 4 — ENVIRONMENTAL MEDICINE

Environmental and Toxicologic Pathology
Infectious and Parasitic Diseases Pathology
Radiologic Pathology
Veterinary Pathology

5

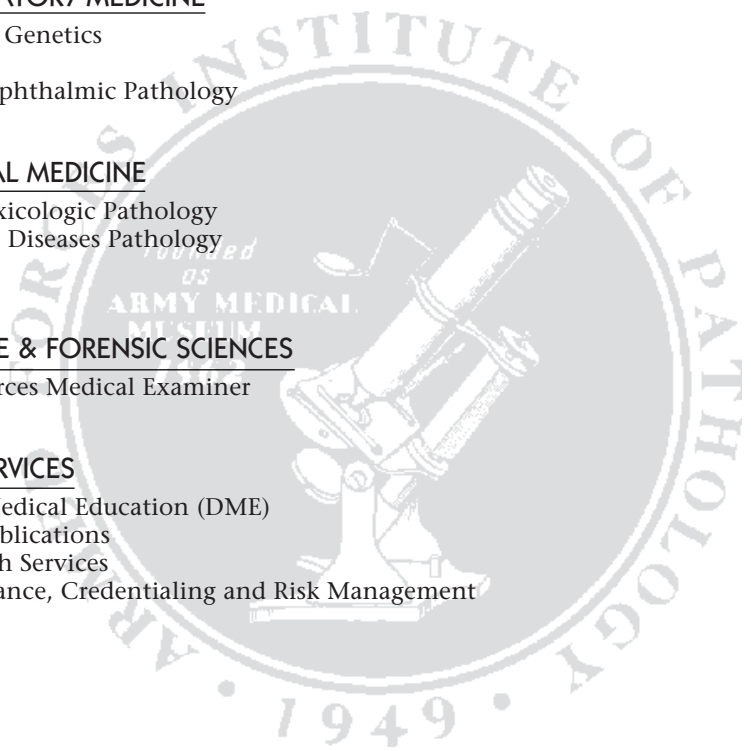
GROUP 5 — LEGAL MEDICINE & FORENSIC SCIENCES

Office of the Armed Forces Medical Examiner
Legal Medicine

6

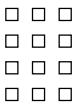
GROUP 6 — SPECIALIZED SERVICES

Center for Advanced Medical Education (DME)
Center for Scientific Publications
Repository and Research Services
Office of Quality Assurance, Credentialing and Risk Management
Telemedicine





Florabel G. Mullick, MD, ScD, SES
Director



PRINCIPAL DEPUTY DIRECTOR

MISSION

The Principal Deputy Director (PDD) serves as the principal advisor, assistant to, and executive agent of the Director, Armed Forces Institute of Pathology (AFIP), for the overall direction, administration, policy formulation, business practices, operation, and management of the organization in executing all of its assigned missions. The PDD supports the Director by providing broad guidance and leadership for all areas of the Institute, and ensuring that these areas contribute in an appropriate manner to the overall missions of the Institute. The PDD ensures the integration of financial strategies, business planning, and the scientific activities of the Institute, which fully support the Director's responsibilities for program development and management review of all Institute resources and missions to ensure they are consistent with planned resource objectives. The PDD is the primary executive agent of the Director in carrying out the responsibilities of scientific policy, financial budgeting, and resources management oversight of all Institute programs and missions. The PDD monitors program evaluation activities throughout the Institute and recommends policy/program changes to the Director to improve the efficiency and effectiveness of Institute programs.

STAFF

James Affonco, MA, Chief of Staff
Ridgely L. Rabold, AAS, Executive Assistant
Hilda P. Elescano, Administrative Assistant

IMPACT

By all measures, 2002 was a challenging year for America. Corporate scandals, a languishing economy, increasing military tensions, and most importantly, mounting national security concerns touched all of us in a very real way. Despite these challenges, AFIP finished 2002 in outstanding condition, poised for a future of ongoing success.

At the same time, we remained steadfast in our commitment to our core values – honesty, loyalty, service, teamwork, innovation, excellence, and community – the same values that are woven into the fabric of the military personnel we were founded to serve over 140 years ago. These core values continue to guide our actions and provide an ethical and philosophical foundation for everything we do. Of the foregoing, honesty is the hallmark for all of our business practices, and this has clearly been the foundation of our success. Saluting the past, we stand strong for the future.

Here at AFIP, we believe that progress is the sum of the little things we do every day to make our products and services better for our contributors and stakeholders. We may not be changing the world overnight, but by focusing on what we do best – and doing it better tomorrow than we did yesterday – we make progress every day. In short, 2002 was a year of progress in our journey toward world leadership in pathology, a journey that finds us stronger today, across virtually every dimension, than we were even one year ago.

Our employees deserve special mention for their dedication to our contributors, patients, and stakeholders, for their focus on results during a tumultuous year, and their can-do spirit in an age when too many people find it easier to make excuses than to make progress. The months

ahead will put their resourcefulness to the test.

The quest for leadership is a long-term game. Our challenge is to fight our way through all the doubts about the future of our Institute, continue to turn in superior performance, and deliver sustainable value to our stakeholders. Fortunately, we love what we do. We believe in our newly adopted business model, our ever-improving technology, and our people. We know that we have a great and vital role to play, and we're prepared to step up to the plate and do what we do best – adapt, innovate, and deliver great service.

DEPLOYMENTS

1. January 15-17, 2002, CDC, Atlanta, Ga
2. February 4-5, 2002, West Virginia
3. February 8, 2002, USUHS, Student Lecture
4. February 13-15, 2002, Retention Committee Meeting, San Juan, PR
5. February 11-12, 2002, Pathology in the New Millennium, Washington, DC
6. February 23, 2002, ADASP, Chicago, Ill
7. February 23 - March 1, 2002, USCAP, Chicago, Ill
8. March 1-5, 2002, 4th AGMUS Hepatitis C Symposium, San Juan, PR
9. March 22, 2002, University of Maryland
10. April 11-15, 2002, University of PR Medical School, San Juan, PR
11. April 20, 2002, 12th Annual Anatomic Pathology Course, Bethesda, Md
12. April 26, 2002, US Advisory Board Meeting, San Juan, PR
13. May 17, 2002, UMET/MIE Project, San Juan, PR
14. May 21-22, 2002, Armed Forces Epidemiology Board, Gaithersburg, Md
15. May 23, 2002, 18th Annual James Earl Ash Lecture, AFIP, Washington, DC
16. June 17, 2002, US Medicine Forum, Washington, DC
17. June 20-21, 2002, ARP Board Meeting, Washington, DC
18. August 28-30, 2002, Diagnostic Surgical Pathology, Washington, DC
19. September 17-20, 2002, Medical Student Lecture, San Juan, PR
20. October 5-11, 2002, 24th International Congress of the IAP, Amsterdam, The Netherlands
21. October 28-29, 2002, UMET/MIE Project, San Juan, PR
22. October 31-November 1, 2002, ARP Board Meeting
23. November 7-8, 2002, US Advisory Board Meeting, San Juan, PR
24. November 14-15, 2002, SAB
25. November 21-23, 2002, Koppish Lecture, San Juan, PR
26. December 2-6, 2002, Spanish Course, Puebla, Mexico
27. December 17-18, 2002, University of Turabo, San Juan, PR

RESEARCH

The PDD published 3 journal articles and 7 abstracts in 2002, and contributed to 2 Web sites. Complete data are listed at the end of this report.

COMMITTEES

Internal:

1. Cochair, AFIP Editorial Board
2. HIV Coordinator, US Army Retrovirus Group
3. Director, AIDS Program
4. Hispanic Employment Manager
5. Consultant, Equal Employment Opportunity
6. Member, Search Committee
7. Member, Ash Library Committee
8. Member, Executive Committee
9. Member, Education Committee
10. Chair, Executive Committee of the Medical Staff
11. Chair, Tissue Utilization Committee
12. Chair, Pathology Information Management Systems (PIMS) Committee

Offices/Committee Memberships in National or International Societies:

1. DoD Representative, National Advisory Environmental Health Sciences Council, National Institute of Environmental Health Sciences, Chapel Hill, NC
2. AFIP Representative, Armed Forces Epidemiology Board, DoD (HA)
3. Member, Mars Sample Hazard Protocol Oversight and Review Committee, NASA
4. Member, External Advisory Committee, Center for Environmental Health, Jackson State University
5. Member, International Geological Correlation Program in Medical Geology, International Union of Geological Sciences and UNESCO
6. Member, Research Center for Minority Institutions, Metropolitan University, Ponce, PR
7. President, National Science Foundation's Model Institutions for Excellence Advisory Board, Ana G. Mendez University System
8. Chair, Task Force for National Science Foundation's Science and Technology Alliance, Ana G. Mendez University System
9. Member, Scientific Advisory Board, FindCancerExperts.com, the patient Web resource for accurate cancer diagnosis
10. Chair, US Presidential Advisory Board, Ana G. Mendez University System
11. Member, Foundation for Advanced Education in the Sciences, Inc.
12. Member, Society for Pediatric Pathology
13. Member, United States and Canadian Academy of Pathology
14. Member, American Academy of Federal Service Physicians
15. Member, American Association for the Study of Liver Diseases
16. Member, Hans Popper Society
17. Member, Sociedad de Gastroenterologia, PR
18. Member, Academy of Medicine of Washington
19. Member, Senior Executives Association
20. Secretary, International Academy of Pathology
21. Member, Association of Directors of Surgical Pathology
22. Member, American Medical Association
23. Trustee, History of Pathology Society
24. Member, Nominating Committee, History of Pathology Society
25. Member, Society of Toxicologic Pathologists
26. Member, Sociedad Latino Americana de Patologia
27. Member, Asociacion Mexicana de Patologos, A.G., Mexico
28. Member, Latin America Pathology Foundation

Manuscripts Reviewed: The PDD's activities include reviewing articles for the following journals:

1. *Annals of Internal Medicine*
2. *Gastroenterology*
3. *Hepatology*
4. *Modern Pathology*
5. *Electronic Journal of Pathology and Histology*
6. *Annals of Diagnostic Pathology*
7. *Toxicologic Pathology*
8. *Patologia: Revista Latinoamericana*

PUBLICATIONS

Journal Articles

1. Ladich ER, Lewin-Smith MR, Specht CS, Moroz AL, Kalasinsky VF, Mullick FG. A histopathological study of head and neck specimens from a cohort of Persian Gulf War military veterans. *Mil Med.* 2002;167:864-867.
2. Centeno JA, Mullick FG, Martinez L, Gibb H, Longfellow D, Thompson C. Chronic arsenic toxicity: an introduction and overview. *Histopathology.* 2002;41:324-326.
3. Centeno JA, Mullick FG, Martinez L, Page NP, Gibb H, Longfellow D, Thompson C,

Ladich ER. Pathology related to chronic arsenic exposure. *Environ Health Perspect.* 2002;110:883-886.

Abstracts

1. Lewin-Smith MR, Ladich ER, Specht CS, Kalasinsky VF, Rabin L, Holtzmuller KC, Moroz AL, Mullick FG. A histopathologic study of liver specimens from Persian Gulf War military veterans. *Mod Pathol.* 2002;15:289A.
2. Kalasinsky VF, Wong-Verelles DM, Cordero SC, Lewin-Smith MR, Ladich ER, Specht CS, Mullick FG. Dioxin analysis in postmortem material from US military Vietnam War veterans. *Am J Clin Pathol.* 2002;118:641. Abstract 73.
3. Specht CS, Lewin-Smith MR, Ladich ER, Kalasinsky VF, Moroz AL, Mullick FG, Rabin L. Study of liver specimens from Gulf War veterans, with clinicopathologic follow-up. *Am J Clin Pathol.* 2002;118:654. Abstract 114.
4. Specht CS, Lewin-Smith MR, Ladich ER, Kalasinsky VF, Moroz AR, Mullick FG, Rabin L. A study of liver specimens from Gulf War veterans, with clinicopathologic follow-up. *Am J Clin Pathol.* 2002;118:654-655.
5. Mullick FG, Pestaner JP, Ejnik JW, Centeno JA. Health effects of depleted uranium exposure. *Histopathology.* 2002;41:327-329.
6. Centeno JA, Mullick FG, et al. Chronic arsenic poisoning: an introduction and overview. Proceedings of the 24th International Academy of Pathology. October 5-11, 2002, Amsterdam, The Netherlands.
7. Katzin WE, Centeno JA, Feng L-J, Kiley M, Mullick FG. Pathology of lymph nodes from patients with breast implants: a histologic and spectroscopic evaluation. *Mod Pathol.* 2002;15:246A. Abstract 1027.

Other Publications

1. Centeno JA, Mullick FG, Gibb H, Longfellow D, Thompson C. The International Tissue and Tumor Repository on Chronic Arseniasis. *Medical Geology Newsletter.* 2002;(5):9-12. International Working Group on Medical Geology Web site at <http://home.swipnet.se/medicalgeology/>.
2. Centeno JA, Mullick FG, Martinez L, Gibb H, Longfellow D, Thompson C. Environmental pathology and health effects of arsenic poisoning. *Medical Geology Newsletter.* 2002;(5):9-12. International Working Group on Medical Geology Web site at <http://home.swipnet.se/medicalgeology/>.



Joseph P. Jensen, BS, MPA
Administrator
Date of Appointment — 15 July 1993



CENTER FOR ADVANCED PATHOLOGY- OPERATIONS

MISSION

The mission of the Center for Advanced Pathology-Operations is to provide effective, efficient, and innovative operations support to the Principal Deputy Director and all departments within the Center for Advanced Pathology (CAP). Operations is defined as planning and execution of the support elements of financial management, logistics support, space usage, personnel plans, and recruitment, training, promotion, and retirement for the supported departments.

ORGANIZATION

As a result of a wide-ranging organizational restructure approved with BOG concurrence on 10/17/02, CAP was abolished and replaced by the Directorate of Advanced Pathology (DAP), composed of the remaining scientific departments when the OAFME was restructured under the Directorate of Field Operations. The Directorate of Clinical Services was formed from the departments of Advanced Medical Education, Telemedicine, Radiologic Pathology, Cellular Pathology, Scientific Laboratories, Repository and Research Services, and Scientific Publications. The Department of Legal Medicine was transferred to OSD/HA programs under the Principal Deputy Director, and Risk Management and Quality Assurance transferred to Special Staff, Principal Deputy Director.

The center is organized into the following sections:

1. Office of the Administrator
2. Financial and Logistics Support
3. International and Departmental Training Office (transferred to Department of Advanced Education)
4. Software Development (transferred to Department of Advanced Education)
5. Group Administrators
6. Credentialing
7. Quality Assurance and Risk Management (to be transferred to Principal Deputy Director-Special Staff)

STAFF

- Candy Moroz, Financial and Logistics Support Supervisor
- Dave Vargas, Logistics and Financial Support
- James Hughes, Logistics and Financial Support
- (D) Carlos Moran, Departmental and International Training (transferred to Department of Advanced Education)
- (D) Michael Feeser, Software Development (transferred to Department of Advanced Education)

- Wendy Baker, Group Administrator (Reproduction and Neuropath group made up of GU, GYN, Neuro)
- (D) Michele Block, Group Administrator (transferred to Repository and Research Services)
- Sheila Norrington, Group Administrator (Abdominol and Thoracic group made up of Hepatic and GI, Cardio, Pulmonary)
- (A) Harold Lindmark, Group Administrator (Musculoskeletal group made up of Derm, Ortho, Oral, Soft Tissue, Endo)
- Mark Sacks, Group Administrator/Credentialing (Specialized Services group made up of Hemato, Vet, Inf and Para, Env and Tox)
- Frank Roberts, Quality Assurance and Risk Management (transferred to Special Staff, Principal Deputy Director)

ACTIVITIES

1. The CAP administrative support staff has continued to refine and improve upon the support provided to CAP departments, including primary secretarial support, either directly through the group administrators or indirectly by contract with individuals, as required. Over the past year, the financial reports provided by CAP Operations were the only real-time financial management tools provided to department chairs, due to a computer-linkage problem between AFIP/Resources Management and the Department of the Army Finance Center in San Antonio, Tex. The group administrators were also able to guide department chairs through administrative actions to improve secretarial staff through intramural or extramural training, and enforced personnel actions, as required. Through the direct efforts of the group administrators at all levels, the Center was able to successfully complete the year with mission support totally met. Equipment purchases were facilitated with the reinstitution of the MedCom Equipment Purchasing Program. Through the efforts of the departments supported by the CAP Financial and Logistics Support element, over \$600,000 worth of equipment costing more than \$2,500 but less than \$100,000 was purchased.
2. The renovation of the South Wing of the AFIP is essentially complete. The South Wing has been designated as swing space for the planned renovation of the North Wing of Building 54. This plan was scrapped by the Transition Planning Office due to MedCom-provided dollars to accelerate the Building 54 renovation. This accreditation has caused an increased demand to move individuals and departments more frequently than initially anticipated.
3. The Pathology Information Management System (PIMS) continues to evolve into a much more secure and usable system with the first significant supplement to the system, the Laboratory Tracking Module.
4. CAP Operations has played an integral role in developing and fielding the new AFIP Business Office, which will allow complete tracking of expenditures and charging mechanisms.

GOALS

1. Integrate administrative support personnel into the overall support system for the CAP departments.
2. Develop, refine, and expand effective administrative support for all CAP areas.
3. Support an environmental improvement program throughout all areas under the control of CAP.
4. Continue to explore technology improvements to better provide administrative support to CAP areas.
5. Review the support services we provide and ensure that we are providing the best possible quality service.
6. Continue to work with the Directorates of Personnel, Resources Management, and Logistics to provide the best possible support to achieve the missions of the AFIP.
7. Continue to support the Student Summer Hire Program to the fullest extent of available funds.
8. Continue to explore ways to improve and reward the quality civilian work force currently assigned. The aggressive search for and hiring of external resources continues to provide the Institute with a motivated and knowledgeable work force.

DEPARTMENTAL AND INTERNATIONAL TRAINING OFFICE

MISSION

The Departmental and International Training Office coordinates and monitors the study/training activities of the AFIP, and ensures that activities of the ARP are integrated according to all regulatory, legal, and service constraints.

SCOPE

Carlos Moran is responsible for coordinating all training/visits to the AFIP and for ensuring that all DoD guidelines and regulations are adhered to. He works closely with the Department of Medical Education and coordinates all international foreign training requests through appropriate channels. Additionally, the Training Office serves as the liaison between the AFIP and the Office of the Army Surgeon General (OTSG) and/or the U.S. Department of State, as appropriate. The Training Office is responsible for ensuring all training initiatives comply with governing regulations and maintain compliance with approved international or applicable affiliation agreements.

In addition to services available through the Department of Medical Education, the AFIP also offers trainees/visitors an opportunity to participate in hands-on training/study programs. The AFIP offers many educational opportunities to those interested in training rotations, fellowships, etc. The AFIP's unique ability to offer observer training allows individuals to train/visit in one of the AFIP's specialized departments and participate in a variety of staff conferences. We offer one-on-one instruction with staff pathologists and the opportunity to participate in AFIP activities, providing an optimal training environment.

ACCOMPLISHMENTS

The department continues its ongoing initiative to redesign the training database, enabling the system to capture a wide range of information on all trainees/visitors, such as military affiliation, status, program category, fee assignment/payment, demographic information, man-workdays, etc.

The Training Office processed approximately 230 international approvals for Department of Medical Education and Radiology courses, and coordinated approximately 300 requests for interdepartmental training, earning the Institute over \$109,357.00 in training-fee reimbursables.

When the U.S. Information Agency merged into the U.S. Department of State, Mr. Moran had to implement changes in training policy and processing procedures. OTSG has also reorganized and implemented several new procedural changes, requiring the Institute to review processing and coordination procedures to ensure that the AFIP is in compliance with the newly reformed guidelines. To that end, Mr. Moran successfully implemented an international agreement requiring OTSG concurrence. He has also expanded the AFIP's relationship with the Security Assistance Training Field Activity (SATFA) by linking the AFIP's Web page to the SATFA Security Assistance Network Web page in an effort to increase the Institute's international educational base. Additionally, to more efficiently disseminate training-related information to Institute personnel, he has implemented and published an Information Sheet and established a Training Office Bulletin Board.

Mr. Moran also serves as the Science and Engineering Apprentice Program Laboratory Coordinator. This program, sponsored by George Washington University, places academically talented high school students with interest and ability in science and mathematics in DoD laboratories for 8 continuous weeks during the summer (June 22 – August 9, 2002). The students work with scientists and engineers who act as mentors. The AFIP has participated in this program for many years and last year hosted 18 students.

GOALS

1. To complete the database review and reengineering processes.
2. To establish and implement more effective reporting methods.
3. To implement a formal evaluation process for all trainees/visitors.
4. To establish standard operating procedures for the Training Office, including necessary changes to bring the office into compliance with newly proposed Accreditation Council for Graduate Medical Education guidelines.

■ GROUP 1

MUSCULOSKELETAL & REPRODUCTIVE DISEASES

DERMATOPATHOLOGY

GENITOURINARY PATHOLOGY

GYNECOLOGIC & BREAST PATHOLOGY

ORTHOPEDIC PATHOLOGY

SOFT TISSUE PATHOLOGY





George P. Lupton, MD
Chair
Date of Appointment—1 July 1988



DEPARTMENT OF DERMATOPATHOLOGY

MISSION

The Department of Dermatopathology provides consultation services and conducts research and educational projects in the field of dermatopathology.

STAFF

- Medical:**
George P. Lupton, MD, Chair
Maria-Magdalena Tomaszewski, MD, Assistant Chair
Luke S. Chung, MD
Walter L. Rush, MD
Sylvana M. Tuur-Saunders, MD
Kim M. Ruska, MAJ, USAF, MC
(A) James R. Hallman, MD
- Administrative:**
Clara Desane
(A) Vishti A. Jefferson

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	3,232
Army (1,228)	
Navy (810)	
Air Force (1,194)	
Federal	2,386
VA (2,344)	
USPHS (12)	
OFA (30)	
Civilian	2,670
Interdepartmental	736
Total	,024

Department staff reviewed and reported 3,232 accessioned military cases and 5,056 accessioned federal and civilian consultations, including SERS and SERA cases submitted by the Department of Veterans Affairs (VA) and VA compensation claims cases. The department also rendered opinions on 736 intramural consultations and reviewed cases from the Department of Legal Medicine.

4,946 cases (5,495 blocks) required the following types of procedures and analyses:

- H&E stain: 27,644

- Special stains: 3,073
- Recuts for immunohistochemical stains: 16,267
- Wet tissue processing: 17
- Immunohistochemical stains: 12,258 tests for 1,252 cases
- Electron microscopy: 6
- Direct immunofluorescence: 1,078 slides for 77 cases
- HPV in situ hybridization: 257 slides for 52 cases
- Molecular biology study: 815 tests for 297 cases

Our department made no change in the contributor diagnosis in 3,806 cases, a minor change in diagnosis in 565 cases, and a major change in diagnosis in 357 cases. We received 3,611 cases with no contributor diagnosis.

Impact:

Many accessioned federal and civilian consultations were difficult cases, such as melanocytic lesions, that could present high-risk medicolegal problems. We changed 357 diagnoses from benign lesion to cancer or from cancer to benign lesion, greatly changing treatment outcome, leading to a potential savings of millions of dollars in medical malpractice suits.

Quality Assurance:

During 2002, our staff participated in quality assurance and risk management (QA/RM) activities at regularly scheduled departmental conferences, and pursued a comprehensive departmental quality assurance plan, with monthly reporting of QA/RM issues.

EDUCATION

Presentations and Seminars: Members of our department made 20 presentations at professional conferences, symposia, and annual meetings, representing a total of 1,775 man-hours. A complete list of titles, dates, and locations appears at the end of this report. Department staff presented teaching and diagnostic slide conferences 4 times weekly for staff pathologists, dermatopathology fellows, residents, and visiting physicians. We also participated in teaching activities at the AFIP, such as professional staff conferences and the Quarterly AFIP/VA and Military Histopathology Quality Assessment Program.

Courses: Members of the department presented at 5 courses (2 non-AFIP and 3 AFIP/nondepartmental).

Trainees: In 2002, the department provided training for 20 military, 15 civilian, and 2 foreign physicians, fellows, and residents in dermatology, pathology, and dermatopathology. Trainees spent an average of 35 days in our department, for a total of 1,310 training-days.

Residents: A total of 1,310 training-days were provided to the trainees assigned to our department on a rotation basis (654 federal, 641 nonfederal, and 15 international). They came from teaching facilities including Walter Reed Army Medical Center, National Naval Medical Center, Washington Hospital Center, Howard University Medical Center, Georgetown University Medical Center, George Washington University Medical Center, National Institutes of Health, and other military teaching hospitals and civilian institutions across the country. Four dermatopathology fellows (2 military and 2 civilian), 10 dermatology residents (7 federal and 3 nonfederal), 15 pathology residents (7 federal, 7 nonfederal, and 1 foreign), 3 visiting dermatologists/pathologists (2 federal and 1 foreign), 3 medical students (2 federal and 1 nonfederal), and 2 interns (1 federal and 1 nonfederal) participated in our program.

Fellows: Our department's Dermatopathology Fellowship Training Program is accredited by the Residency Review Committee for Dermatology and Pathology under the Accreditation Council for Graduate Medical Education (ACGME). The program is accredited for 1 year of training for 2 fellows as a joint effort of the AFIP Department of Dermatopathology and the Department of Pathology and Dermatology Services, WRAMC. To qualify for a training appointment, dermatopathology fellows must be board-certified or board-eligible in dermatology and/or pathology. After successful completion of 1 year of training, fellows are eligible to apply to take the Examination for Certification of Special Qualification in Dermatopathology, an annual exam administered jointly by the American Board of Dermatology (ABD) and the American Board of Pathology (ABP).

During the academic year 2001-2002, 2 physicians (1 Navy dermatologist and 1 civilian pathologist) were trained as dermatopathology fellows. Two other physicians (1 Army pathologist and 1 civilian dermatologist, a Callender-Binford Fellow sponsored by the American

Registry of Pathology) began their fellowship programs in July 2002.

Educational Aids: Fourteen dermatopathology teaching sets (10 sets of glass slides and 4 sets of 35-mm slides) are available through interlibrary loan. The sets are used extensively by fellows, medical students, and residents throughout the country preparing for certification examinations in dermatology and dermatopathology.

RESEARCH

Publications: In 2002, department staff published 4 journal articles. Complete bibliographical information is listed at the end of this report.

Projects: Four ongoing projects were reviewed and are in progress:

1. Nodular Hyperplasia in Congenital Nevi
2. Spindle Cell and Epithelioid Cell Nevi with Atypia and Metastasis (Malignant Spitz Nevus) (in preparation for publication)
3. Malignant Melanoma – Tumor Microarray
4. Spindle Cell and Epithelioid Cell (Spitz) nevus in the African American population..... (prepared for publication)

OTHER ACCOMPLISHMENTS

Collaborators: Two papers were published jointly with the Department of Dermatology, Wake Forest University, Winston-Salem, NC, and one paper was published jointly with the Laboratory of Molecular Biology, National Cancer Institute, NIH, Bethesda, Md.

Editorial Board:

American Journal of Dermatopathology, GP Lupton

Faculty Appointments:

1. Uniformed Services University of the Health Sciences, GP Lupton.
2. George Washington University School of Medicine, GP Lupton.

Continuing Education: Department staff attended 8 training courses in 2002, provided at the following venues:

1. AFIP 12th Anatomic Pathology Review Course
2. American Society for Clinical Pathology/College of American Pathology
3. 39th Annual Meeting of the American Society of Dermatopathology
4. World Congress of Dermatology
5. Annual Meeting of the Mexican Society of Pathology
6. Octavo Symposium of Pathology
7. Annual Meeting of the International Society for Cutaneous Lymphoma
8. USUHS DoD Smallpox Preparedness Conference

Official Trips: Members of our department took 6 official trips funded by AFIP/ARP.

PRESENTATIONS

1. February 2002: Washington, DC, WRAMC, Dermatology Service, "Utilizing immunohistochemistry in dermatopathology," M-M Tomaszewski.
2. February 2002: Washington, DC, WRAMC, Dermatology Service, "Tumors of fat, smooth muscle and skeletal muscle," KM Ruska.
3. March 2002: Washington, DC, WRAMC, Dermatology Service, "Proliferations of fibrous and related tissues involving the skin," M-M Tomaszewski.
4. April 2002: Bethesda, Md, AFIP, 12th Anatomic Pathology Review and Update, Dermatopathology Session, "Problematic melanocytic lesions," GP Lupton.
5. April 2002: Bethesda, Md, AFIP, 12th Anatomic Pathology Review and Update, Dermatopathology Session, "Utilizing immunohistochemistry in dermatopathology," M-M Tomaszewski.
6. April 2002: Bethesda, Md, AFIP, 12th Anatomic Pathology Review and Update, Dermatopathology Session, "Inflammatory dermatoses: a diagnostic approach," WL Rush.
7. April 2002: Washington, DC, WRAMC, Dermatology Service, "Cutaneous lymphoma," M-M Tomaszewski.
8. July 2002: Paris, France, 20th World Congress of Dermatology, Symposium, "Controver-

- sies in dermatopathology," "Spitz's nevus cannot metastasize," GP Lupton.
9. August 2002: Bethesda, Md, AFIP, Diagnostic Surgical Pathology Course, "Pitfalls in the histopathologic diagnosis of pigmented lesions of the skin," GP Lupton.
 10. August 2002: Bethesda, Md, AFIP, Diagnostic Surgical Pathology Course, "Malignant eccrine neoplasms," GP Lupton.
 11. September 2002: Washington, DC, WRAMC, Dermatology Service, "Panniculitis," WL Rush.
 12. October 2002: Phoenix, Ariz, 39th Annual Meeting of the American Society of Dermatopathology, Consultations in Dermatopathology, "Malignant melanoma: yes or no?" GP Lupton.
 13. October 2002: Phoenix, Ariz, 39th Annual Meeting of the American Society of Dermatopathology, Poster Presentation, "Cutaneous cribriform carcinoma – variant of apocrine carcinoma," M-M Tomaszewski.
 14. October 2002: Phoenix, Ariz, 39th Annual Meeting of the American Society of Dermatopathology, Poster Presentation, "Spindle and epithelioid cell (Spitz's) nevus in the African-American population," M-M Tomaszewski.
 15. November 2002: San Juan, PR, Octavo Symposium of Pathology, "Problematic melanocytic lesions of the skin," GP Lupton.
 16. November 2002: San Juan, PR, Octavo Symposium of Pathology, "Pitfalls in the histopathologic diagnosis of pigmented lesions," GP Lupton.
 17. December 2002: Washington, DC, George Washington University School of Medicine, Department of Pathology, "Inflammatory dermatoses: a diagnostic approach," WL Rush.
 18. December 2002: Washington, DC, George Washington University School of Medicine, Department of Pathology, "Malignant melanoma: yes or no?" M-M Tomaszewski.
 19. December 2002: Puebla, Mexico, Mexican Society of Pathology Annual Meeting, "Pitfalls in the histopathologic diagnosis of pigmented lesions," GP Lupton.
 20. December 2002: Puebla, Mexico, Mexican Society of Pathology Annual Meeting, "Malignant eccrine neoplasms," GP Lupton.

PUBLICATIONS

Journal Articles

1. Hallman JR, Fang D, Setaluri V, White WL. Microtubule associated protein (MAP-2) expression defines the companion layer of the anagen hair follicle and an analogous zone in the nail unit. *J Cutan Pathol.* 2002;29:549-556.
2. Lupton GP, Elson B, Helwig, MD (1907-1999). *J Cutan Pathol.* 2002;29:129-134.
3. Smith E, Hallman JR, Pardasani A, McMichael A. Multiple herpetic whitlow lesions in a patient with chronic lymphocytic leukemia. *Am J Hematol.* 2002;69:285-288.
4. Recio JA, Noonan FP, Takayama H, Anver MR, Duray P, Rush WL, Lindner G, DeFabo EC, DePinho RA, Merlino G. Ink4a/arf deficiency promotes radiation induced melanomagenesis. *Cancer Res.* 2002;62:6724-6730.

GOALS

1. Provide expert and timely consultation on dermatopathology cases sent to us for review.
2. Provide education in dermatopathology through lectures at local, regional and national meetings and by conducting a departmental course.
3. Conduct research on pertinent topics in dermatopathology and publish results in respected national and international journals of dermatopathology, pathology, and dermatology.
4. Conduct a fully accredited Dermatopathology Fellowship Training Program to provide the military services with board-certified dermatopathologists, thereby enhancing primary patient care.



F. K. Mostofi, MD
Chair
Date of Appointment—1 July 1948



DEPARTMENT OF GENITOURINARY PATHOLOGY

MISSION

The Department of Genitourinary Pathology provides consultation, education, and research in genitourinary pathology and support for military urology research. We serve as the WHO Collaborating Center for Histological Classification of Tumors of the Urinary Tract and Male Sex Organs.

ORGANIZATION

The department is organized into 3 divisions:

- 1. Division of Nephropathology – Sharda G. Sabnis, MD, Chief
- 2. Division of Genitourinary Pathology – Charles J. Davis, Jr, MD
- 3. Division of Genitourinary Research – Isabell A. Sesterhenn, MD

STAFF

Medical:

- F. K. Mostofi, MD, Chair
- Charles J. Davis, Jr, MD, Deputy Chair, ARP
- Isabell A. Sesterhenn, MD, Associate Chair
- (D) Michael J. O'Donoghue, LCDR, MC, USNR, Staff Pathologist
- Raj Shekar, COL, MC, USA, Staff Pathologist
- (A) Gary L. Cohen, Maj, USAF, MC, Staff Pathologist
- (D) Wei Zhang, MD, Fellow
- (A) Bungo Furusato, MD, Fellow
- (A) Xinzhu Pang, MD, Fellow

Technical:

- Frank A. Avallone, Research Biologist
- Denise Young, Histopathology Technologist, ARP
- Rex C. Hartzoge, Histopathology Technologist

Administrative:

- Renee Upshur-Tyree, Administrator
- Annette D. Allen, Secretary, VA
- Harriet M. Murphy, Administrative Clerk, ARP
- (A) Vera Pettus, Medical Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	1,288
Army (602)	
Navy (135)	
Air Force (538)	
FMIL (13)	
Federal	1,372
VA (1,328)	
USPHS (1)	
OFA (41)	
AFIP (2)	
Civilian	1,721
Interdepartmental	419
Total	4,800

2,368 cases for consultation, 135 for education, and 6 for research required the following types of procedures and analyses:

- H&E stains: 6,939 slides (Scientific Laboratories)
- H&E stains: 5,346 slides (Genitourinary Lab)
- Special stains: 567 slides
- Immunohistochemical staining: 7,486 tests for 1,893 cases
- Frozen tissue sections for DNA and RNA extraction: 7,325 slides for 122 cases, which represent 366 frozen blocks which also required 366 H&E-stained slides
- HPV in-situ hybridization: 886 slides for 173 cases
- Chromosome studies: 22 cases
- Molecular biology examination: tests for 2 cases
- Total recuts studied: 52,691
- Contributor slides studied: 31,057

Our departmental laboratory performed 7,486 direct immunohistochemical tests on 1,893 cases for our department and 17 other AFIP departments or divisions, and 8 tests on 8 cases for WRAMC. The laboratory performed HPV in-situ hybridization for our department and 9 other AFIP departments, resulting in 557 slides for 152 cases, and 21 cases for WRAMC resulting in 69 slides. These 626 slides for HPV tests necessitated 212 control slides resulting in 886 HPV slides. The laboratory also performed frozen tissue sections for the department and 7 other AFIP departments or divisions. This included 438 cases with 6,132 slides for frozen section for immunofluorescence studies (FITC), 438 H&E sections, and 603 photographs of FITC slides. Additionally, 8 cases from the NIH for 72 FITC and 8 H&E slides were processed. Thirteen cases from the OAFME and Environmental/Chemical Pathology resulted in 213 frozen tissue slides (unstained) for analysis.

Our department made no change in the contributor diagnosis in 1,975 cases (2/3 of which were for confirmation), a minor change in diagnosis in 1,977 cases, and a major change in diagnosis in 102 cases, and received 315 cases with no contributor diagnosis. Most of our surgical consultations were on prostate specimens, increasingly from patients under 60 years old. The number of bladder and kidney tumor consultations has increased.

The following 30 telepathology cases were immediately examined and reported:

- 15 national and international civilian contributors
- 7 VA
- 8 military

Impact:

- The department provided consultations on over 4,800 cases, 61% of which were military, VA, and Public Health cases, and half of which required a primary diagnosis or a diagnostic change. As in the previous year, a minor diagnostic change with respect to a pathological disagreement had major impact on clinical management.

- Department staff published the WHO International Histological Classification of Prostate Tumors. The staff participated as coauthors and editors of the WHO Classification of Tumors of the Genitourinary and Male Reproductive System. These books provide criteria for the diagnosis of tumors.
- We have a research project with Harvard Medical School, Riverside Research Institute, New York, Georgetown University, and the University of Colorado. Last year, senior staff members lectured at 28 national or international meetings. We also provide an annual course on genitourinary pathology, which is attended by candidates for the American Board of Urology. The chair is on the faculty of Johns Hopkins, Maryland, and Georgetown universities, and on the Dean's Council of Harvard Medical School.
- An Internet-based course on urologic pathology is available on the Web.
- We provide pathology support for diagnosis, treatment, and research for the Center for Prostate Disease Research (designed as a tri-service prostate specimen repository), which was mandated by Congress as authorized in Public Law 102-172. In this capacity our department is frequently requested to provide personal consultations to members of Congress and high-ranking military officers.
- The Division of Nephropathology has, in recent years, absorbed essentially all military and VA renal biopsies, increasing the caseload. Electron microscopy of renal biopsies has been eliminated in all military and most VA hospitals.

Quality Assurance: In 2002, department staff participated in 2 proficiency tests in immunohistochemistry and 2 tests in in-situ hybridization.

EDUCATION

Presentations and Seminars: Department staff gave 25 presentations in 2002. We participated in 11 seminars, workshops, and lectures, and continued our affiliations with WRAMC, NNMC, and USUHS by lecturing to pathologists, residents, and fellows. Dates and titles are listed at the end of this report.

Courses: Staff members participated in 1 non-AFIP and 2 AFIP courses in 2002, for a total of 4,709 man-hours.

Trainees: Urology residents from WRAMC spend 1 month in the department and additional time, as required, if they are involved in a joint research project. In 2002, we had 2 fellows/residents in training for a total of 243 days.

Educational Aids:

- The second module of the Internet-based Genitourinary Pathology Course has been completed.
- The Annual Urologic Pathology Course has added a computer laboratory for the study of 1,200 images.
- 126 slides were sent to VA hospitals for the VA Quality Assurance Program.

RESEARCH

Publications: In 2002, department staff published 8 journal articles, 26 abstracts, and 1 book. Complete references are listed at the end of this report. WHO Classification of Tumors, Pathology and Genetics of the Urinary System and Male Genitourinary System is in press.

Projects: The department continues to provide pathology support for research projects of the Urology Service at WRAMC, the Center for Prostate Disease Research, USUHS, Andrews Air Force Base, and NNMC. These projects involve prostatic carcinoma, testicular tumors, and bladder cancers. Ongoing research projects include:

1. Studies of Various Renal Tumors in Adults
2. Review of Testicular Tumors in Infants and Children
3. Studies of Carcinoma In Situ of the Bladder

Research Funds Received: Collaboration with the Center for Prostate Disease Research in the amount of \$91,692 for a fellow and expenses of the GU Laboratory.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Urology Services, Naval Medical Center, San Diego, WRAMC, Andrews Air Force Base,

prostatic carcinoma.

2. Urology Service, NNMC, bladder cancer.
3. WRAMC, Biomedical Engineering Laboratories, Riverside Research Institute, New York, pathologic-radiologic correlation on 3D ultrasonic visualization of prostate cancer.
4. Division of Cancer, Epidemiology and Genetics, NCI, comparison of Chinese and American prostatic carcinomas.
5. Division of Epidemiology, NIH, international study on familial testicular tumors.

Civilian:

1. Center for Cancer Research, MIT, Boston, Brigham and Women's Hospital, Harvard Medical School, Glyko Inc., Novato California, asparagine-linked glycosylation patterns in prostate cancer metastases.
2. Beth Israel Deaconess Medical Center, Boston (Urology, Pathology, and Oncology Departments), clinical trial with combination therapy in locally advanced prostatic carcinoma.
3. Cleveland Clinic, Ohio (Urology and Pathology Departments), p53 and bcl-2 in familial prostate cancer.

Interdepartmental:

1. Department of Cellular Pathology, flow-cytometric analysis of 120 prostatic carcinomas.
2. Molecular Pathology Division of Cellular Pathology, Gynecologic and Breast Pathology, interphase cytogenetics and p53 gene mutations in node-positive and node-negative breast cancers.

Honors: FK Mostofi became Honorary Fellow of the Royal College of Pathologists, February 2002.

Committees:

Manuscripts Reviewed:

FK Mostofi, CJ Davis, and IA Sesterhenn reviewed 10 manuscripts for the following professional journals:

1. *Journal of Urology*
2. *Urology*
3. *The Prostate*
4. *Cancer*

Offices/Committee Memberships in National and International Societies:

FK Mostofi:

1. Head, WHO Collaborating Center for Histological Classification of Tumors of the Urinary Tract and Male Genital System
2. Secretary-Treasurer, International Council of Societies of Pathology
3. Trustee, American Foundation for Urologic Diseases

Faculty Appointments:

FK Mostofi:

1. USUHS, Adjunct Professor of Pathology.
2. Johns Hopkins University School of Medicine, Associate Professor of Pathology.
3. Georgetown University School of Medicine, Clinical Professor of Pathology.
4. University of Maryland, Baltimore, Clinical Professor of Pathology.
5. Chinese People's Liberation Army General Hospital and Military Post Graduate Medical School, Beijing, China, Honorary Professor.
6. United States Military Cancer Institute, WRAMC, Member.

IA Sesterhenn:

1. USUHS, Assistant Professor of Pathology.
2. United States Military Cancer Institute, WRAMC, Member.

CJ Davis:

1. USUHS, Professor of Pathology.
2. United States Military Cancer Institute, WRAMC, Member.

Official Trips:

1. January 2002, George Washington University, IA Sesterhenn.

2. February 2002, US/Canadian Academy of Pathology.
3. May 2002, 97th AUA Annual Meeting.
4. June 2002, 18th UICC International Cancer Congress, Oslo, Norway, FK Mostofi, IA Sesterhenn.
5. July 2002, Epidemiology Branch, NCI, IA Sesterhenn.
6. September 2002, 26th Congress of the Societe Internationale d'Urologie, Stockholm, Sweden, FK Mostofi, IA Sesterhenn.
7. December 2002, Working Group Meeting of the WHO Classification of Tumors, Lyon, France, CJ Davis, IA Sesterhenn.

PRESENTATIONS

1. February/March 2002: Washington, DC, WRAMC and NNMC, "Lesions of the kidney, prostate and testis," FK Mostofi, CJ Davis, IA Sesterhenn.
2. March 2002: Chicago, Ill, 91st Annual US/Canadian Academy of Pathology, "Correlation of HER2/NEU expression in patients at high risk for progression following radical prostatectomy," IA Sesterhenn.
3. March 2002: Chicago, Ill, 91st Annual US/Canadian Academy of Pathology, "Evaluation of whole-mount prostate derived tissue arrays by immunostaining of p53 and bcl-2 proteins to predict prostate cancer recurrence," IA Sesterhenn.
4. April 2002: Bethesda, Md, AFIP Anatomic Pathology Course, CJ Davis, IA Sesterhenn.
5. May 2002: Orlando, Fla, 97th AUA Annual Meeting, "Generation and characterization of a novel prostate-specific antigen and androgen receptor-positive primary prostatic carcinoma-derived cell line," Staff.
6. May 2002: Orlando, Fla, 97th AUA Annual Meeting, "Decreased expression of the tumor suppressor gene maspin is associated with p53 and HER-2 alterations in prostate cancer," Staff.
7. May 2002: Orlando, Fla, 97th AUA Annual Meeting, "PMEPA1, an androgen regulated gene, with growth inhibitory function in prostate cancer cells," Staff.
8. May 2002: Orlando, Fla, 97th AUA Annual Meeting, "Expression of a novel gene DERP1 on chromosomal 16q22.1 is decreased in renal and prostate tumors," Staff.
9. May 2002: Orlando, Fla, 97th AUA Annual Meeting, "Cancer associated expression of a novel class of highly prostate-specific genes, PCGEM1 and DD3, in laser capture microdissected cells of prostate cancer patients," Staff.
10. May 2002: Orlando, Fla, 97th AUA Annual Meeting, "Characterization of a candidate tumor suppressor gene on chromosome 6q16.1 in prostate cancer," Staff.
11. May 2002: Orlando, Fla, 97th AUA Annual Meeting, "P63 expression, a potential marker for basal cells of prostate," Staff.
12. May 2002: Orlando, Fla, 97th AUA Annual Meeting, "HER2/NEU expression in patients at high risk for progression following radical prostatectomy," Staff.
13. June 2002: Oslo, Norway, 18th UICC International Cancer Congress, "Does invasive grade 1 urothelial carcinoma exist?" IA Sesterhenn.
14. June 2002: Oslo, Norway, 18th UICC International Cancer Congress, "Evaluation of whole-mount prostate derived tissue arrays by immunostaining of p53 and bcl-2 proteins to predict prostate cancer recurrence," IA Sesterhenn.
15. June 2002: Oslo, Norway, 18th UICC International Cancer Congress, "The CPDR localized prostate cancer multifocal tissue arrayer project: novel experience with characterization of HER2/neu expression," CG Henderson.
16. June 2002: Oslo, Norway, 18th UICC International Cancer Congress, "HER2/neu expression in patients at high risk for progression following radical prostatectomy," CG Henderson.
17. June 2002: Oslo, Norway, 18th UICC International Cancer Congress, "Significance of seminal vesicle invasion by prostatic carcinoma," IA Sesterhenn.
18. June 2002: Oslo, Norway, 18th UICC International Cancer Congress, "Stage migration of prostatic carcinoma in the military health-care system," IA Sesterhenn.
19. June 2002: Oslo, Norway, 18th UICC International Cancer Congress, "Testicular teratoma in adults," IA Sesterhenn.
20. August 2002: Bethesda, Md, Diagnostic Surgical Pathology Conference, CJ Davis, IA Sesterhenn.

21. September 2002: Stockholm, Sweden, 26th Congress of the Societe Internationale d'Urologie, "The CPDR localized prostate cancer multifocal tissue arrayer project: novel experience with characterization of HER2/neu expression," CG Henderson.
22. September 2002: Stockholm, Sweden, 26th Congress of the Societe Internationale d'Urologie, "HER2/neu expression in patients at high risk for progression following radical prostatectomy," CG Henderson.
23. September 2002: Stockholm, Sweden, 26th Congress of the Societe Internationale d'Urologie, "Evaluation of whole-mount prostate derived tissue arrays by immunostaining of p53 and bcl-2 proteins to predict prostate cancer recurrence," IA Sesterhenn
24. September 2002: Stockholm, Sweden, 26th Congress of the Societe Internationale d'Urologie, "Testicular teratoma in adults," CJ Davis.
25. September 2002: Stockholm, Sweden, 26th Congress of the Societe Internationale d'Urologie, "Does invasive grade 1 urothelial carcinoma exist?" W Zhang.

PUBLICATIONS

Journal Articles

1. Davis LD, Zhang W, Merseburger AS, Young D, Xu LL, Rhim JS, Moul JW, Srivastava S, Sesterhenn IA. p63 expression profile in normal and malignant prostate epithelial cells. *Anticancer Res.* 2002;22:3819-3826.
2. Segawa T, Nau M, Xu LL, Chilukuri RN, Makarem M, Zhang W, Petrovics G, Sesterhenn IA, McLeod DG, Moul JW, Vahey M, Srivastava S. Androgen-induced expression of endoplasmic reticulum (ER) stress response genes in prostate cancer cells. *Oncogene.* 2002;21:8749-8758.
3. Desai A, Wu H, Sun L, Sesterhenn IA, Mostofi FK, McLeod D, Amling C, Kusuda L, Lance R, Herring J, Foley J, Baldwin D, Bishoff JT, Soderdahl D, Moul JW. Complete embedding and close step-sectioning of radical prostatectomy specimens both increase detection of extra-prostatic extension, and correlate with increased disease-free survival by stage of prostate cancer patients. *Prostate Cancer Prostat Dis.* 2002;5:212-218.
4. Opell MB, Zeng J, Bauer JJ, Connelly RR, Zhang W, Sesterhenn IA, Mun SK, Moul JW, Lynch JH. Investigating the distribution of prostate cancer using three-dimensional computer simulation. *Prostate Cancer Prostat Dis.* 2002;5:204-209.
5. Zou Z, Zhang W, Young D, Gleave MG, Rennie P, Connell T, Connelly R, Moul J, Srivastava S, Sesterhenn I. Maspin expression profile in human prostate cancer (CaP) and in vitro induction of maspin expression by androgen ablation. *Clin Cancer Res.* 2002;8:1172-1177.
6. Sun M, Ma L, Xu L, Li J, Zhang W, Petrovics G, Makarem M, Sesterhenn I, Zhang M, Blanchette-Mackie EJ, Moul JW, Srivastava S, Zou Z. A novel gene DERPCL located on 16q22.1 inhibits prostate tumor cell growth and its expression is decreased in prostate and renal tumors. *Mol Med.* 2002;8:654-662.
7. Hsing AW, Chen C, Chokkalingam AP, Gao YT, Wu G, Wang X, Deng J, Cheng J, Sesterhenn IA, Mostofi FK, Chiang T, Chen YL, Stanczyk FZ, Chang C. Polymorphic CAG/CAA repeat length in the AIB1/SRC-3 gene and prostate cancer risk: a population-based case control study. *Cancer Epidemiol Biomarkers Prev.* 2002;11:337-341.
8. Chokkalingam AP, Gao YT, Deng J, Stanczyk FZ, Sesterhenn IA, Mostofi FK, Fraumeni JF Jr, Hsing AW. Insulin-like growth factors and risk of benign prostatic hyperplasia. *Prostate.* 2002;52:98-105.

Abstracts

1. Srivastava S, Zou Z, Zhang W, Young D, Rich NM, Gleave MG, Rennie P, Connell T, Connelly RR, Sesterhenn IA, Moul JW. Modulation of maspin expression by androgen ablation in prostate cancer. Society of University Surgeons 2002. Abstract 50390.
2. Sun M, Ma L, Li J, Srikantan V, Zhang W, Petrovics G, Makarem M, Sesterhenn IA, Moul JW, Chandrasekharappa S, Srivastava S, Zou Z. Characterization of a novel tumor suppressor gene locus on chromosome 6q16.1 in prostate cancer. AACR 2002. Abstract 101324.
3. Xu LL, Srikantan V, Shi Y, Sesterhenn IA, McLeod DG, Moul JW, Srivastava S. Biologic functions of PMEPA1, an androgen regulated gene with high level expression in prostate. AACR 2002. Abstract 102394.
4. Segawa T, Nau ME, Xu LL, Chilukuri RN, Makarem M, Zhang W, Petrovics G, Sesterhenn IA, McLeod DG, Moul JW, Vahey M, Srivastava S. Gene expression profiling of androgen

- regulated genes in prostate cancer cells define endoplasmic reticulum stress response pathway as a novel component of androgen signaling. AACR 2002. Abstract 102450.
5. Yasunaga Y, Nakamura K, Ko D, Srivastava S, Moul JW, Sesterhenn IA, McLeod DG, Rhim JS. Generation and characterization of a novel prostate-specific antigen and androgen receptor-positive primary prostatic carcinoma-derived cell line. AUA 2002. *J Urol.* 2002;167:47. Abstract 187.
 6. Merseburger AS, Henderson CG, Connelly RR, Young DY, Sun L, Mostofi FK, Moul JW, Srivastava S, Sesterhenn IA, Zou Z. Decreased expression of the tumor suppressor gene maspin is associated with p53 and HER-2 alterations in prostate cancer. *J Urol.* 2002;167:51. Abstract 202.
 7. Xu LL, Srikantan V, Shi Y, Sesterhenn IA, McLeod DG, Moul JW, Srivastava S. PMEPA1, an androgen regulated gene, with growth inhibitory function in prostate cancer cells. *J Urol.* 2002;167:55. Abstract 216.
 8. Zou Z, Sun M, Ma L, Li J, Xu L, Zhang W, Petrovics G, Makarem M, Sesterhenn IA, Moul JW, Srivastava S. Expression of a novel gene DERP1 on chromosomal 16q22.1 is decreased in renal and prostate tumors. *J Urol.* 2002;167:129. Abstract 514.
 9. Petrovics G, Zhang W, Makarem M, Sesterhenn IA, Sun L, Moul JW, Srivastava S. Cancer associated expression of a novel class of highly prostate-specific genes, PCGEM1 and DD3, in laser capture microdissected cells of prostate cancer patients. *J Urol.* 2002;167:140. Abstract 560.
 10. Sun M, Ma L, Li J, Srikantan V, Zhang W, Petrovics G, Makarem M, Sesterhenn IA, Moul JW, Chandrasekharappa S, Srivastava S, Zou Z. Characterization of a candidate tumor suppressor gene on chromosome 6q16.1 in prostate cancer. *J Urol.* 2002;167:145. Abstract 582.
 11. Davis L, Merseburger A, Young D, Srivastava S, Sesterhenn IA. P63 expression, a potential marker for basal cells of prostate. *J Urol.* 2002;167:210-211. Abstract 848.
 12. Henderson CG, Sesterhenn IA, Zhang W, Young DY, Davis CJ, Peoples GE, McLeod DG, Mostofi FK, Moul JW. HER2/NEU expression in patients at high risk for progression following radical prostatectomy. *J Urol.* 2002;167:338. Abstract 1339.
 13. Henderson CG, Sesterhenn IA, Zhang W, Young DY, Davis CJ, Peoples GE, McLeod DG, Moul JW, Mostofi FK. Correlation of HER2/Neu expression in patients at high risk for progression following radical prostatectomy. *Lab Invest.* 2002;82:163A. Abstract 679.
 14. Merseburger AS, Young DY, McLeod DG, Connelly RR, Mostofi FK, Srivastava SK, Moul JW, Sesterhenn IA. Evaluation of whole-mount prostate derived tissue arrays by immunostaining of p53 and bcl-2 proteins to predict prostate cancer recurrence. *Lab Invest.* 2002;82:175A. Abstract 727.
 15. Sesterhenn IA, Mostofi FK, Davis CJ, Zhang W, Brinsko RW. Does invasive grade I urothelial carcinoma exist? *Int J Cancer.* 2002;Suppl 13:114. Abstract O141.
 16. Merseburger AS, Young DY, McLeod DG, Connelly RR, Mostofi FK, Srivastava SK, Moul JW, Sesterhenn IA. Evaluation of whole-mount prostate derived tissue arrays by immunostaining of p53 and bcl-2 proteins to predict prostate cancer recurrence. *Int J Cancer.* 2002;Suppl 13:115. Abstract O144.
 17. Henderson CG, Merseburger AS, Young DY, Sesterhenn IA, Sun L, Connelly RR, McLeod DG, Mostofi FK, Srivastava S, Moul JW. The CPDR localized prostate cancer multifocal tissue arrayer project: novel experience with characterization of HER2/neu expression. *Int J Cancer.* 2002;Suppl 13:320. Abstract P574.
 18. Henderson CG, Sesterhenn IA, Zhang W, Young DY, Davis CJ, Peoples GE, McLeod DG, Moul JW, Mostofi FK. HER2/neu expression in patients at high risk for progression following radical prostatectomy. *Int J Cancer.* 2002;Suppl 13:353. Abstract P 684.
 19. Sesterhenn IA, Paquette EL, Zhang W, Paquette LR, Mostofi FK, McLeod DG, Davis CJ. Stage migration of prostatic carcinoma in the military health-care system. *Int J Cancer.* 2002;Suppl 13:372. Abstract P746.
 20. Mostofi FK, McLeod DG, Sesterhenn IA, Zhang W, Davis CJ, Gibbons M, Moul JW. Significance of seminal vesicle invasion by prostatic carcinoma. *Int J Cancer.* 2002;Suppl 13:373. Abstract P748.
 21. Mostofi FK, Sesterhenn IA, Davis CJ, Mesonero C. Testicular teratoma in adults. *Int J Cancer.* 2002;Suppl 13:374. Abstract P752.
 22. Henderson CG, Merseburger AS, Young DY, Sesterhenn IA, Sun L, Connelly RR, McLeod DG, Mostofi FK, Srivastava S, Moul JW. The CPDR localized prostate cancer multifocal

tissue arrayer project: novel experience with characterization of HER2/neu expression. *BJU Int.* 2002;90:54. Abstract P-2.3.05.

23. Henderson CG, Sesterhenn IA, Zhang W, Young DY, Davis CJ, Peoples GE, McLeod DG, Moul JW, Mostofi FK. HER2/neu expression in patients at high risk for progression following radical prostatectomy. *BJU Int.* 2002;90:55. Abstract P-2.3.09.
24. Merseburger AS, Young DY, McLeod DG, Connelly RR, Mostofi FK, Srivastava SK, Moul JW, Sesterhenn IA. Evaluation of whole-mount prostate derived tissue arrays by immunostaining of p53 and bcl-2 proteins to predict prostate cancer recurrence. *BJU Int.* 2002;90:57. Abstract P-2.3.18.
25. Mostofi FK, Sesterhenn IA, Davis CJ, Mesonero C. Testicular teratoma in adults. *BJU Int.* 2002;90:112. Abstract P-3.4.07.
26. Zhang W, Sesterhenn IA, Mostofi FK, Davis CJ, Brinsko RW. Does invasive grade I urothelial carcinoma exist? *BJU Int.* 2002;90:305. Abstract UP-4.1.36.

Book

WHO International Histological Typing of Prostate Tumours. Springer-Verlag; 2002.

GOALS

1. Continue our cooperation with the Urology Services of Army, Navy and Air Force, particularly Malcolm Grow, NNMCC, WRAMC, and US Army Center for Prostatic Disease Research by providing detailed pathological examination of total prostatectomy specimens, preparing microscopic sections of fresh frozen tissue for molecular pathology and other studies of the Center, providing the pathology segment of scientific reports and presentations of the Center, and serving on the Research Committee of the Center.
2. Improve, modernize, and make our consultations more competitive.
3. Reduce turnaround time. Currently all cases sent in by Federal Express or Express Mail are expeditiously reported. We intend to do the same for all the cases. When there is serious disagreement, the contributors will be called personally.
4. Provide virtual slide images so single slides can be returned and civilians billed accordingly.
5. Continue to serve as the international consultant on pathological diagnosis and clinical management of patients with tumors of these organs and as in the past, provide immediate response.
6. Prepare weekend courses to include all GU organs (bladder, prostate, kidney, and testis) for pathologists.
7. Prepare additional Internet courses.
8. Continue the comprehensive week-long course in GU pathology for urology residents, military and civilian pathologists.
9. Initiate a microscope tutorial for military pathology residents.
10. Assist in the 3rd edition of Urologic Pathology (genitourinary textbook).
11. Continue with cooperative research programs with WRAMC and CPDR, NCI, Johns Hopkins and other universities.
12. Try to obtain research funds through Military Cancer Institute, US Army Medical Research and Materiel Command, and National Institutes of Health.
13. Get involved in clinical trials.
14. Accept invitations to lecture and/or participate in conferences or seminars.
15. Continue to participate in the programs of USCAP, AUA, IAP, SIU and UICC.



Sharda G. Sabnis, MD
Chief
Date of Appointment—1 January 1994



DIVISION OF NEPHROPATHOLOGY

MISSION

The Division of Nephropathology provides expertise in consultation, education, and research in the field of nephropathology for the military, federal, and civilian sectors at the national and international level.

STAFF

- Medical:**
Sharda G. Sabnis, MD
- Scientific:**
Hong Qu, MD, Callender-Binford Fellow, January-June 2002
Suman Chauhan, MD, Callender-Binford Fellow, July-December 2002
- Administrative:**
Paulette Crampton, Secretary

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	164
Army (95)	
Navy (58)	
Air Force (11)	
Federal	82
VA (73)	
OFA (9)	
Civilian	133
Interdepartmental	60
Animal Research	47
Total	486

The above cases required the following types of procedures and analyses:

- Wet tissue: 133
- Blocks: 222
- H&E stain: 467
- Special stains: 1,417
- Electron microscopy: 368
- Immunofluorescence microscopy: 273
- Immunohistochemistry (immunoperoxidase): 33

Cases submitted to our division are routinely studied using light, electron, and immunofluorescence microscopy; immunoperoxidase technique is used when necessary. The staff reviewed a total of 486 cases, including 373 surgical cases, 6 autopsies, 23 intramural and 37 walk-in consultations, and 47 research specimens. Among 379 human cases, 368 were re-

ceived for electron microscopy (EM), but 430 specimens were studied by EM that included additional studies on contributor's cases and interdepartmental consult cases. We studied 273 specimens by immunofluorescence microscopy (3,549 slides, 2,457 FITC). We processed 282 cases for light microscopy, including 467 H&E slides and 1,417 special stains slides (Masson trichrome, PAS, and PAMS stain). We performed immunohistochemistry (immunoperoxidase technique) on 33 specimens. Case turnaround time was 7.1 days (7.8 days in 2001), including completion of light, immunofluorescence, and electron microscopy and rendering of final report.

Impact:

A member of division staff served as the primary pathologist in most of the cases, performing light, immunofluorescence, and electron microscopy to render quality diagnosis. Most of our cases are submitted with a request for light, electron, and/or immunofluorescence microscopy, essential in the final diagnosis. This includes time-consuming research for clinical data and discussion with the clinicians or contributing pathologists to arrive at the final diagnosis. The staff uses immunohistochemical (peroxidase method), in-situ hybridization, and PCR methods to identify Polyomavirus in suspected kidney transplant biopsies. Among the 379 human kidney biopsies, 246 (65% compared to 37% in 2001) were from federal institutions and 133 (35% compared to 63% in 2001) were from civilian contributors. There was a substantial increase in cases from federal contributors from the previous year (187 in 2001, 246 in 2002).

Deployments:

1. Dr. Sabnis serves as a consultant to the Department of Pathology, National Naval Medical Center (NNMC), and as Adjunct Staff Member, Department of Pathology, Walter Reed Army Medical Center (WRAMC). She reviews all kidney biopsies performed at WRAMC and NNMC, and many other military, VA, and federal institutions, constituting 65% of cases received by the division.
2. Dr. Sabnis trains pathology fellows in electron microscopy for the joint residency program of WRAMC and NNMC.
3. The division trains post-graduate nephrology fellows at WRAMC and NNMC.

EDUCATION

Presentations and Seminars: Dr. Sabnis made 14 presentations at conferences and professional meetings in 2002. Complete dates and titles are listed at the end of this report. Division staff participated in the following educational activities, for a total of 1,000 man-hours of instruction:

1. Monthly renal biopsy conference for the staff and fellows of the Division of Nephrology, WRAMC.
2. Monthly biopsy conference at George Washington University Medical Center.
3. Federal Medical Monthly Nephrology Seminar, USUHS, Bethesda, Md.
4. Monthly biopsy conference on "Renal Transplant Pathology-Grand Rounds," National Institutes of Health.

Courses: Division staff participated in 2 AFIP courses, for a total of 859 man-hours.

Trainees: Since 1998, the division has trained 4 fellows in its 2-year nephropathology fellowship. In 2002, 13 pathology and nephrology trainees rotated for periods of 2-4 weeks, for a total of 431 training days. The division held daily 3-hour pathology conferences (2,400 man-hours). The conferences and lectures provided on-the-job training for 13 fellows (1,293 man-hours) in nephrology and pathology, including 8 civilian, 4 military, and 2 international trainees.

RESEARCH

Publications: Division staff published 2 journal articles and 1 abstract in 2002. Complete data are listed at the end of this report.

Projects: The division participated in 2 research projects in 2002 in collaboration with WRAMC:

1. Does Combination of Pirfenidone, Enalapril and Lovastatin Reduce Proteinuria and Glomerular/Interstitial Histologic Score in Rats with PAN-induced FSGS and Existing Nephrotic Syndrome? (UBRD WRAMC/AFIP)
2. Pattern of Protein Size- and Charge-Selectivity in Clinical Kidney Disease (UBSY, WRAMC/AFIP)

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. WRAMC, Does Combination of Pirfenidone, Enalapril and Lovastatin Reduce Proteinuria and Glomerular/Interstitial Histologic Score in Rats with PAN-induced FSGS and Existing Nephrotic Syndrome?
2. WRAMC, Pattern of Protein Size- and Charge-Selectivity in Clinical Kidney Disease

Honors:

SG Sabnis:

1. Guest Speaker, Department of Pathology, Topiwala National Medical College, Mumbai, India
2. Guest Speaker, Department of Pathology, National University of Singapore

Committees:

Editorial Boards:

1. *Transplantation India*, SG Sabnis
2. *Archives of Medical Research*, SG Sabnis

Offices/Committee Memberships in National or International Societies:

SG Sabnis:

1. Founding Member, International Society of Geriatric Nephrology and Urology
2. President-elect, Association of Indian Pathologists in North America (AIPNA)

Faculty Appointments:

SG Sabnis:

1. Uniformed Services University of the Health Sciences, Clinical Associate Professor of Pathology
2. Georgetown University, Clinical Associate Professor, Department of Pathology
3. George Washington University, Adjunct Associate Professor, Department of Pathology
4. Howard University, Clinical Associate Professor, Department of Pathology
5. George Washington University, Associate Clinical Professor of Pathology, Department of Pathology

Official Trips:

SG Sabnis:

1. January 2002, Department of Pathology, Topiwala National Medical College, Mumbai, India.
2. January 2002, Guest Speaker, Department of Pathology, National University of Singapore.
3. February 2002, 91st Annual Meeting of the US/Canadian Academy of Pathology, Chicago, Ill.
4. August 2002, Laboratory Inspector Course, College of American Pathologists, Rochester, NY.

Continuing Education: Department staff attended the following training courses in 2002:

1. Annual Meeting of the US/Canadian Academy of Pathology (ARP).
2. Update on Renal Biopsies in Medical Renal Diseases, Silver Spring, Md (ARP/AFIP).
3. College of American Pathologists Laboratory Inspector Course, Rochester, NY (ARP).
4. Computer Course: Introduction to Word, WRAMC.

PRESENTATIONS

1. January 2002: Singapore, National University of Singapore, "Pathology of renal transplants," SG Sabnis.
2. January 2002: Mumbai, India, "Evaluation of renal biopsy," "Pathology of renal transplants," "Case discussions," SG Sabnis.
3. April 2002: Silver Spring, Md, Update on Renal Biopsies in Medical Renal Diseases, "Pathology of lupus nephritis," "Evaluation of renal biopsy," "Pathology of renal transplants," SG Sabnis.
4. April 2002: Washington, DC, WRAMC Department of Medicine, Grand Rounds, "Membranous glomerulopathy," SG Sabnis.

5. June 2002: Washington, DC, George Washington University Department of Pathology, "Pathology of kidney transplants," SG Sabnis.
6. July 2002: Washington, DC, George Washington University Department of Pathology, "Evaluation of kidney biopsy," SG Sabnis.
7. August 2002: Mumbai, India, Topiwala National Medical College, Department of Pathology, "Pathology of lupus nephritis," "Importance of electron microscopy in renal biopsy interpretation," SG Sabnis.
8. October 2002: Washington, DC, Providence Hospital Department of Medicine, "Dense deposit disease," SG Sabnis.
9. December 2002: Washington, DC, AFIP Staff Conference, "Membranous glomerulopathy: new findings," SG Sabnis.

PUBLICATIONS

Journal Articles

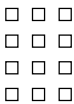
1. Alroy J, Sabnis S, Kopp JB. Renal pathology in Fabry disease. *J Am Soc Nephrol.* 2002;13:S131-S138.
2. Branton MH, Schiffmann R, Sabnis SG, Murray GJ, Quirk JM, Altarescu G, Goldfarb L, Brady RO, Balow JE, Austin HA III, Kopp JB. Natural history of Fabry renal disease: influence of alpha-galactosidase A activity and genetic mutations on clinical course. *Medicine (Baltimore).* 2002;81:122-138.

Abstract

Degaetano MA, Kobert JE, Jackson RO, Kiandoli LC, Sabnis SG, Yuan CM. A model of tacrolimus-induced fluid and electrolyte abnormalities in the rat. *J Am Soc Nephrol.* 2002;13:777A.



Brian L. Strauss, MAJ, USAFR, MC, PhD
Interim Chair
Date of Appointment – 19 August 2002



DEPARTMENT OF GYNECOLOGIC AND BREAST PATHOLOGY

MISSION

The Department of Gynecologic and Breast Pathology provides expert consultative diagnosis to military and civilian health professionals. The staff is also engaged in research and education through on-site training, off-site courses, and Web-based materials.

STAFF

Medical:

- Brian L. Strauss, MAJ, USAF, MC, PhD, Interim Chair
- Russell S. Vang, Vice Chair
- Ross Barner, MAJ, MC, USA, Staff Pathologist
- Marille E. Herrmann, Staff Pathologist, ARP
- Chang Y. Liang, COL, USAF, MC, Staff Pathologist
- Jeffrey S. Saenger, MAJ, MC, USA, Staff Pathologist
- (D) Fattaneh A. Tavassoli, MD, Chair
- (D) Michael D. Stamatakos, Lt Col, USAF, MC, Staff Pathologist
- (D) Lisa Tai, MD, Staff Pathologist
- (D) Anna Burga, MD, Fellow
- (A) Tuyethoa N. Vinh, Staff Pathologist
- (A) Darren T. Wheeler, MAJ, MC, USAR, Staff Pathologist

Scientific:

- Gary L. Bratthauer, MS
- Yan-Gao Man, MD, PhD
- Roy Zhang, MD, Fellow

Administrative:

- Angeline Edmonds, Secretary
- Consuelo Lewis, Administrative Assistant

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	1,411
Army (710)	
Navy (285)	
Air Force (416)	
Federal	309
VA (270)	
OFA (39)	
Civilian	2,630
Interdepartmental	267
Total	4,617

2,913 cases for consultation, 388 for education, and 123 for research required the following types of procedures and analyses:

- H&E stains: 11,093 slides
- Special stains: 806 slides
- Immunohistochemical staining: 9,618 slides
- Electron microscopy: 7 cases
- Direct immunofluorescence: 62 tests for 27 cases
- HPV in situ hybridization: 28 slides for 19 cases
- Molecular biology examination: 3 tests for 1 case
- Total recuts studied: 20,006
- Contributor slides studied: 42,287
- Total number of slides studied: 62,293

The departures of Dr. Stamatakos in January, Dr. Tai in March, and Dr. Tavassoli in autumn 2002 were difficult transitions for the department. The resignation of Dr. Tavassoli, a distinguished pathologist and long-time asset to the department, was a loss to both the department and the AFIP. However, the arrival of 2 new staff members helped the department maintain a caseload that is one of the highest in the Institute. Indeed, we achieved our fastest monthly case turnaround time in November, and research proposals have continued to increase. We interviewed candidates for the position of chair from July through December, and look forward to the new opportunities that change will bring.

Impact:

1. Before her departure, Dr. Tavassoli completed much of the editing of the WHO classification manuals on tumors of the breast and female genital tract.
2. In 2002, there was a significant increase in the number of active research protocols and the percentage of staff involved in them.

EDUCATION

Presentations and Seminars: Department staff made 13 presentations at conferences and seminars in 2002. A complete list of dates and titles appears at the end of this report.

Courses:

Non-AFIP:

1. Consensus Conference on Breast Tumors, World Health Organization, Lyon, France, January 10-17, 2002.
2. Gynecologic Tumor Consensus Meeting, World Health Organization, Lyon, France, March 14-19, 2002.
3. Harvard Course on Selected Topics in Surgical Pathology, Harvard Medical School, Sanibel Island, Fla, March 22-25, 2002.
4. Weekend in Pathology Course, American Society for Clinical Pathology, Toronto, Ontario, April 27-28, 2002.
5. 9th Annual Seminar in Pathology, United Hospital Center/Clarksburg, WV, Pittsburgh, Penn, May 2-5, 2002.
6. 21st Annual Current Issues in Surgical Pathology, University of Texas, Dallas, May 16-18, 2002.
7. Milan Breast Cancer Conference, European Institute of Oncology, Milan, Italy, June 5-7, 2002.
8. Course of Telepathology, National Cancer Research Institute, Genoa, Italy, June 24-27, 2002.

AFIP:

12th Annual Anatomic Pathology Review Course, Bethesda, Md, April 2002.

Trainees: The department provided training for 2 research pathologists (210 days), 3 federal employees (60 days), 3 foreign nationals (48 days), 4 nonfederal employees (165 days), and 1 medical student (23 days).

RESEARCH

Publications: Members of the department published 6 journal articles and 10 abstracts in 2002. Complete data are listed at the end of this report.

Projects: The department maintained the following research projects in 2002:

1. Clinicopathologic analysis of signet ring stromal tumors of the ovary with histologic and immunohistochemical comparison with Krukenberg tumors.
2. Gynandroblastoma: an immunohistochemical and molecular analysis.
3. Peutz-Jeghers syndrome associated with gynecologic tumors.
4. Malignancies arising in mammary adenomyoepithelioma.
5. Ovarian strumal carcinoids.
6. Lobular intraepithelial neoplasia (LIN) of the breast: an examination of the relationship to ductal disease and infiltrating carcinomas.
7. STAT 5a expression in breast neoplasms.
8. Comparison of novel myoepithelial cell immunohistochemical markers with more established immunomarkers in the human breast.
9. Malignant mural nodules of indeterminate differentiation in ovarian mucinous tumors.
10. New approaches for early detection of breast tumor invasion or progression.
11. Genetic alterations in breast neoplasia.
12. Loss of heterozygosity in bilateral breast cancer.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. James L. Mulshine, National Cancer Institute, NIH, Cancer and Cell Biology Branch, genetic alterations in cells overlying disrupted myoepithelial cell layers.
2. Robert F. Bonner, Lab of Integrative and Medical Biophysics, National Cancer Institute, NIH, RNA expression pattern in cells overlying disrupted myoepithelial cell layers.
3. Ira Pastan, Lab of Molecular Biology, National Cancer Institute, NIH, expression pattern of newly discovered genes in human breast tissue.

Civilian:

1. Fattaneh Tavassoli, NIH, clinicopathologic analysis of signet ring stromal tumors of the ovary with histologic and immunohistochemical comparison with Krukenberg tumors.
2. Fattaneh Tavassoli, NIH, immunohistochemical analysis of ovarian sex cord-stromal tumors with mixed granulosa and sertoli components.
3. Fattaneh Tavassoli, NIH, microsatellite instability in ovarian sex cord-stromal tumors with mixed granulosa and sertoli components.
4. Raymond Tubs, Cleveland Clinic, HER2 FISH on breast tissues.
5. James Mascarello, PhD, Children's Hospital San Diego, cytogenetic nomenclature in FISH analyses.
6. Kornelia Polyak, Dana-Farber Cancer Institute, Brigham and Women's Hospital, HIDS/psoriasin antibody use in high-grade ductal carcinoma in situ of the breast.
7. Quiz-Xiang Army Sang, Florida State University, MMP-9, MMP-26, TIM-2, and TIM-4 expression in human breast cancer.

International:

1. Jaime Prat, Spain, clinicopathologic analysis of signet ring stromal tumors of the ovary with histologic and immunohistochemical comparison with Krukenberg tumors.
2. Alice Lytwyn, Ontario, Canada, microsatellite analysis on SCTAT tumors.

Committees:

Manuscripts Reviewed: Members of the department reviewed articles for the following professional journals in 2002:

1. *Archives of Pathology and Laboratory Medicine* (2)
2. *Cancer Detection and Prevention* (1)
3. *Human Molecular Genetics* (1)
4. *Journal of the National Cancer Institute* (1)
5. *American Journal of Obstetrics and Gynecology* (1)
6. *Human Pathology* (1)
7. *International Journal of Surgical Pathology* (1)
8. *International Journal of Gynecological Pathology* (1)

Continuing Education: Department staff received training at the following courses in 2002:

1. USCAP Meeting.
2. UCSF-Stanford Current Issues in Anatomic Pathology.
3. Beth Israel Deaconess Medical Center, Current Concepts and Controversies in Breast Pathology.
4. Gynecologic and Obstetric Pathology (2002), Boston, Mass, sponsored by Harvard Medical School.

PRESENTATIONS

1. February/March 2002: Chicago, Ill, USCAP Meeting, "Focal loss of estrogen receptor (ER) expression in ER-positive ductal intraepithelial neoplasia is associated with disruptions of the immediate subjacent myoepithelial cell layer," YG Man, KM Shekitka, JS Saenger, L Tai, GL Bratthauer, PY Chen, FA Tavassoli.
2. February 2002: Chicago, Ill, USCAP Meeting, "Histologic analysis of proliferative mucinous lesions of the endometrium: minimal criteria for diagnosis of carcinoma on biopsies and curetings," RS Vang, FA Tavassoli.
3. July 2002: Phoenix, Ariz, American Dermatopathology Society, "Assessing the value of p16 in the diagnosis of malignant melanoma," AL Li, MR Fowler, YG Man, F Abreo, D Sanusi.
4. September 2002: Orlando, Fla, Department of Defense Breast Cancer Research Programs, "Co-expression of Maspin and Wilms' tumor 1 proteins in mammary myoepithelial cells: implication for tumor progression and invasion," YG Man, RS Vang, JS Saenger, BL Strauss, GL Bratthauer, PY Chen, FA Tavassoli.
5. September 2002: Orlando, Fla, Department of Defense Breast Cancer Research Programs, "Focal losses of ER expression in epithelial cells and disruptions of subjacent myoepithelial cell layers are correlated events in ER (+) ductal intraepithelial neoplasia," YG Man, L Tai, R Barner, CY Liang, RS Vang, JS Saenger, KM Shekitka, GL Bratthauer, PY Chen, FA Tavassoli.
6. September 2002: Orlando, Fla, Department of Defense Breast Cancer Research Programs, "An antigen retrieval protocol that satisfies both immunohistochemical and subsequent molecular assessments," YG Man, A Burga.
7. September 2002: Orlando, Fla, Department of Defense Breast Cancer Research Programs, "Genetic alterations in ER (-) mammary epithelial cells overlying focally disrupted myoepithelial cell layers," YG Man, BL Strauss, JS Saenger, L Tai, GL Bratthauer, PY Chen, FA Tavassoli.
8. September 2002: Orlando, Fla, Department of Defense Breast Cancer Research Programs, "Focal alterations of p27 expression and subjacent myoepithelial cell layer disruptions are correlated events in ER (-) ductal intraepithelial neoplasia," YG Man, JS Saenger, BL Strauss, RS Vang, GL Bratthauer, PY Chen, FA Tavassoli.
9. September 2002: Orlando Fla, Department of Defense Breast Cancer Research Programs, "Morphologically similar stromal cells associated with benign and malignant mammary epithelial tumors display different immunohistochemical and molecular profiles," FA Tavassoli, YG Man, BL Strauss, RS Vang, GL Bratthauer, PY Chen.
10. November 2002: Washington, DC, WRAMC, "Gestational trophoblastic disease," BL Strauss.
11. November 2002: Washington, DC, WRAMC, "Breast and gyn unknown slide conference," R Barner.
12. December 2002: Boston, Mass, Brigham and Women's Hospital, "Mammary adenomyoepitheliomas, benign and malignant, a model to study the epithelial myoepithelial relationship," ME Herrmann.
13. December 2002: San Antonio, Tex, "Immunohistochemical and genetic alterations in mammary epithelial cells overlying focally disrupted myoepithelial cell layers," YG Man, KM Shekitka, GL Bratthauer, FA Tavassoli.

PUBLICATIONS

Journal Articles

1. Tavassoli FA, Ortiz-Hidalgo C, Baquera-Heredia J, Grassi P. Images in pathology: the hearts of a breast pathologist, a hematopathologist, and of a cytotechnologist. *Int J Surg Pathol.* 2002;10:295.
2. Mooney EE, Nogales FF, Bergeron C, Tavassoli FA. Retiform Sertoli-Leydig cell tumours:

clinical, morphological and immunohistochemical findings. *Histopathology*. 2002;41:110-117.

3. Bratthauer GL, Tavassoli FA. Lobular intraepithelial neoplasia: previously unexplored aspects assessed in 775 cases and their clinical implications. *Virchows Arch*. 2002;440:134-138.
4. Tai LH, Tavassoli FA. Endometrial polyps with atypical (bizarre) stromal cells. *Am J Surg Pathol*. 2002;26:505-509.
5. Bratthauer GL, Lininger RA, Man YG, Tavassoli FA. Androgen and estrogen receptor mRNA status in apocrine carcinomas. *Diagn Mol Pathol*. 2002;11:113-118.
6. Bratthauer GL, Moinfar F, Stamatakis MD, Mezzetti TP, Shekitka KM, Man YG, Tavassoli FA. Combined E-cadherin and high molecular weight cytokeratin immunoprofile differentiates lobular, ductal, and hybrid mammary intraepithelial neoplasias. *Hum Pathol*. 2002;33:620-627.

Abstracts

1. Vang R, Tavassoli FA. Histologic analysis of proliferative mucinous lesions of the endometrium: minimal criteria for diagnosis of carcinoma on biopsies and curettings. *Mod Pathol*. 2002;15:212A.
2. Herrmann ME, Shekitka KM, Stamatakis MD, Matusik J, Tavassoli FA. Malignancies arising in adenomyoepithelioma of breast. *Mod Pathol*. 2002;15:37A.
3. Man YG, Shekitka KM, Saenger JS, Tai L, Bratthauer GL, Chen PY, Tavassoli FA. Focal loss of estrogen receptor (ER) expression in ER positive ductal intraepithelial neoplasia is associated with disruption of the immediate subjacent myoepithelial cell layer. *Mod Pathol*. 2002;15:42A.
4. Man YG, Saenger JS, Strauss B, Vang RS, Bratthauer GL, Chen PY, Tavassoli FA. Focal alterations of p27 expression and subjacent myoepithelial cell layer disruptions are correlated events in ER (-) ductal intraepithelial neoplasia. Proceedings of Department of Defense Breast Cancer Research Program Meeting. Orlando, Fla, September 25-28, 2002;1:P9:14.
5. Man YG, Strauss B, Saenger JS, Tai L, Bratthauer GL, Chen PY, Tavassoli FA. Genetic alterations in ER (-) mammary epithelial cells overlying focally disrupted myoepithelial cell layers. Proceedings of Department of Defense Breast Cancer Research Program Meeting. Orlando, Fla, September 25-28, 2001;1:P9:15.
6. Man YG, Vang RS, Saenger JS, Strauss B, Bratthauer GL, Chen PY, Tavassoli FA. Co-expression of Maspin and Wilms tumor 1 proteins in mammary myoepithelial cells: implication for tumor progression and invasion. Proceedings of Department of Defense Breast Cancer Research Program Meeting. Orlando, Fla, September 25-28, 2002;1:P9:16.
7. Man YG, Tai L, Barner R, Liang CY, Vang RS, Saenger JS, Shekitka KM, Bratthauer GL, Chen PY, Tavassoli FA. Focal losses of ER expression in epithelial cells and disruptions of neoplasia. Proceedings of Department of Defense Breast Cancer Research Program Meeting. Orlando, Fla, September 25-28, 2002;1:P9:17.
8. Man YG, Burga A. An antigen retrieval protocol that satisfies both immunohistochemical and subsequent molecular assessments. Proceedings of Department of Defense Breast Cancer Research Program Meeting. Orlando, Fla, September 25-28, 2002;1:P9:18.
9. Tavassoli FA, Man YG, Strauss B, Vang RS, Bratthauer GL, Chen PY. Morphologically similar stromal cells associated with benign and malignant mammary epithelial tumors display different immunohistochemical and molecular profiles. Proceedings of Department of Defense Breast Cancer Research Program Meeting. Orlando, Fla, September 25-28, 2002;2:P25:18.
10. Man YG, Shekitka KM, Bratthauer GL, Tavassoli FA. Immunohistochemical and genetic alterations in mammary epithelial cells overlying focally disrupted myoepithelial cell layers. *Breast Cancer Res Treat*. 2002;143:569.

GOALS

1. Address transitional status of department by appointing permanent chair.
2. Increase number and retention of staff pathologists, allowing greater time for research and educational activities.
3. Identify additional sources of financial support for department research.



Eric S. Suarez, CDR, MC, USN
Chief
Date of Appointment—1 December 2000



DIVISION OF PRENATAL, PERINATAL AND PLACENTAL PATHOLOGY

MISSION

The Division of Prenatal, Perinatal and Placental Pathology provides extramural and intramural consultation on pediatric, placental, and gestational pathology; engages in research activities concerning pediatric pathology and gestational disorders; and provides the medical community with educational opportunities for the study of pediatric, placental, or gestational pathology.

STAFF

Medical:

Eric S. Suarez, CDR, MC, USN, Chief
(D) Glenn E. Dickey, Col, USAF, MC (ret)

Administrative:

Stephanie Hudson, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	164
Army (70)	
Navy (52)	
Air Force (42)	
Federal	3
OFA(3)	
Civilian	357
Interdepartmental	35
Total	559

Impact:

Of the total number of cases, 14 had no diagnosis rendered by the contributing pathologist and 27 had major diagnostic changes with clinical implications. Many of the specimens submitted to the division were accompanied by wet tissue, or were full autopsies. The 47 autopsies were from multiple sources: 21 civilian, 10 Army, 11 Navy, 5 Air Force, and 18 autopsies received in consult from other departments within the AFIP. During 2002, our staff performed extensive dissections of specimens from cases showing complex congenital cardiac or central nervous system malformations. Gross photograph, x-ray, high-field magnetic resonance imaging, and electron-microscopic evaluations were done, as needed.

It is difficult to determine the actual proportions of autopsy and surgical cases due to a large degree of overlap in the material received and accessioned. Several autopsy cases had surgical material, such as placenta, that was not included separately in the tabulation of cases. Conversely, some fetal death autopsy cases were tabulated as surgical specimens. Most of the surgical cases of gestational trophoblastic disease were reviewed in cooperation with the Division of Quantitative Pathology, which provided flow cytometry for these specimens. Our division also provided consultation to the Office of the Armed Forces Medical Examiner for the evaluation of cases of infant death. Some cases with multiple malformations were also

evaluated by experts from the Division of Clinical Genetics.

Consultation with contributing pathologists is an active educational process. If this is done by telephone, it increases the diagnostic yield, as the contributor can benefit from our opinion prior to beginning the autopsy procedure. As a consulting center, we provide expert opinions to multiple DoD hospitals and centers that would otherwise have to arrange similar services with private providers. We provide experts in pediatric pathology, perinatal medicine, and clinical genetics who enhance the quality of genetic services in the Department of Defense. Our efforts are likely to increase with the implementation of specialty Web sites.

Quality Assurance: The division provided quality assurance by reviewing cases from hospitals and centers of the Department of Defense, the Brazilian Society of Pathology, as well as 1 case as part of the VA/QA program to military hospitals.

EDUCATION

Presentation and Seminars: Division staff made 3 presentations at conferences and seminars in 2002. Complete dates and titles are listed at the end of this report.

Courses:

1. AFIP Twelfth Annual Course, "Placenta and Gestational Trophoblastic Disease."
2. AFIP Twelfth Annual Course, "Common Pediatric Tumors."

Faculty Appointments:

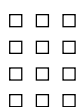
Uniformed Services University of the Health Sciences, Clinical Assistant Professor, Department of Pathology, ES Suarez.

PRESENTATIONS

1. January 2002: Washington, DC, AFIP, Professional Staff Conference, "Two Common pediatric Adominal Tumors," Suarez ES.
2. April 2002: Silver Spring, Maryland, Anatomic Pathology Review and Update, AFIP Twelfth Annual Course, "Placenta and gestational trophoblastic disease," R. Conran.
3. April 2002: Silver Spring, Maryland, Anatomic Pathology Review and Update, AFIP Twelfth Annual Course, "Common pediatric tumors," ES Suarez



Donald E. Sweet, MD
Chair
Date of Appointment — 5 December 1982



DEPARTMENT OF ORTHOPEDIC PATHOLOGY

MISSION

The Department of Orthopedic Pathology provides excellence in orthopedic pathology consultation, education, and research for the Department of Defense, the Veterans Administration, and other federal agencies, and for civilian pathologists, orthopedists, and related specialists at the national and international levels.

STAFF

Medical:

Donald E. Sweet, MD, Chair
(D) Tuyethoa N. Vinh, MD, Assistant Chair
(A) Daniel Strum, COL, MC, USA, Staff Pathologist
Frank H. Gannon, MD, Staff Pathologist
Francis X. McGuigan, CDR, MC, USN, Orthopedic Surgeon
Arthur Ward, LCDR, MC, USN, Podiatrist

Scientific:

Arron Jurist, HPC1, USN

Administrative:

Jean C. Banks, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	250
Army (107)	
Navy (85)	
Air Force (56)	
Foreign (2)	
Federal	129
VA (117)	
USPHS (3)	
OFA (9)	
Civilian	4
Interdepartmental	133
X-ray transfers	84
Total	1420+

The department completed approximately 1,420 cases: 822 new cases, 525 new sequences (material) on old cases, 133+ intramural consults, and approximately 84 radiologic transfers. There may be a discrepancy between the computer-based consultation numbers listed above and the transcribed physical case count. This entailed the study of approximately 8,420 x-rays (40,100 radiographic images), approximately 4,010 of which were copied in Log-E and/or digitized format, and examination of approximately 4,801 contributor slides, 1,211 recuts, and 1,240 immunohistochemical stains, special stains, and studies. This resulted in rendering approximately 1,420 final, 133 consultative, and a lesser number of phone reports, with an average turnaround time of 6 days. These figures do not include an almost equal number of interim and follow-up reports. Of these cases, approximately 35% had no contributor diagnosis, 45% had no diagnostic change, 16% had minor diagnostic changes, and 4% had major diagnostic changes. Approximately 43+ gross specimens were studied and dissected, including metabolic bone cases, with the majority being specimen x-rayed. Approximately 60% of the cases represent tumor or tumor-like conditions. The department is particularly interested in cases of metabolic bone disease, avascular necrosis, lipomas and related lesions of bone, cortical osteofibrous dysplasia and adamantinoma of long bone, and reactions to prosthetic implants.

Impact:

Mission accomplishments in military consultation have increased 25% over last year, while education has remained fairly stable. Research accomplishments have been listed for clarification. Notable military- and mission-related activities have been highlighted as appropriate. There were significant changes in our professional staff in 2002, and departmental refurbishing continued.

Work continued in our fully operational Biomechanical and Musculoskeletal Research Laboratory, which is capable of evaluating the cause of military-related biomechanical injuries of active duty personnel. We also provided training, equipment, and activity modifications necessary to eliminate and/or reduce the risk of such injuries, including the use of protective head and body armor. Our department developed 4 interdisciplinary (pathology, radiology, orthopedic surgery) 3-day workshops on bone neoplasia, metabolic bone disease, inflammatory bone disease, and arthritis, and continued work on the Non-neoplastic Bone and Joint Disease fascicle, expanding the radiologic-pathologic correlative concept as currently applied to bone neoplasia.

EDUCATION

The Department of Orthopedic Pathology's annual commitment to education through its courses, presentations, guest lectures, and trainee program provided 1,965 man-days of training during 2002, excluding exhibits and/or posters.

Presentations and Seminars: Department staff made 32 presentations at conferences and educational venues in 2002, for a total of 492 man-days. Complete titles and dates are listed at the end of this report.

Courses: Department staff conducted 8 courses and tutorials in 2002, for a total of 1,495 attendee-days and 116 CME hours.

Trainees: Department staff provided training in 2002 for 3 trainees, plus visitor study and board preparation for military, federal, and civilian medical students, pathologists, orthopedic surgeons, and fellows, for a total of 49 trainee-days.

Educational Aids:

1. Orthopedic A, B, and C study sets with approximately 280 glass slides and 1,000 2x2s
2. General Surgical Pathology Course/AFIP Study Set
 - Orthopedic Pathology Study Section (21 glass slides)
 - Radiographic/Pathologic 3-Part Series: Margins, Matrix, Periosteal Reactions, glass slide study set (25 glass slides)
3. Orthopedic Pathology Learning Center (AFIP), reestablished September 1985; temporarily relocated in the AFIP/UPS Warehouse, Gaithersburg, Md.

Exhibits:

1. Anatomic Aspects of Aging, National Museum of Health and Medicine (permanent exhibit)
2. Gunshot Wounds: A Historic Perspective, National Museum of Health and Medicine (permanent exhibit)

3. Behind the Scenes: The Case of Private Potter Revisited. Sequestration in Acute Osteomyelitis During the Civil War, National Museum of Health and Medicine (permanent exhibit)
4. Lent C. Johnson Memorial Exhibit Window, Department of Orthopedic Pathology, AFIP (permanent exhibit)
5. Anterior Cruciate Ligament Injuries in Females, Department of Orthopedic Pathology, AFIP (permanent exhibit)
6. Nazarian DG, McGuigan FX, Bowen B, Boot RE, A Two-Stage Approach to Primary Knee Arthroplasty in the Infected Arthritic Knee, AAOS, Dallas, Tex, February 2002.
7. Lynott J, McGuigan FX, Treatment of Intractable Pain About the Knee Following Orthopedic Surgery, SOMOS, San Diego, Calif, December 2002.

RESEARCH

Publications: Department staff published 10 journal articles and 5 syllabi/CD-ROMs in 2002. Complete bibliographic information is listed at the end of this report.

Projects: Our department maintained 6 ongoing research projects in 2002:

1. Conventional and Ossifying Lipoma of Bone
2. Immunohistochemistry of Adamantinoma and COFD
3. The Structure of Articular Cartilage
4. Neuropathic Joint Disease
5. Immunohistochemistry/Clear Cell Chondrosarcoma
6. Body Armor, Head Protection, and Training Injuries

OTHER ACCOMPLISHMENTS

Committees:

Offices/Committee Memberships in National or International Societies:

1. Chair, OCCME, ACGME and ARP Education Committees, DH Sweet
2. Chair, AAOS Committee on Diversity, FX McGuigan
3. Member, AAOS Mentoring Program, FX McGuigan
4. Member, Department of Surgery Research Committee, USUHS, FX McGuigan

Manuscripts Reviewed: Department staff reviewed articles for the following professional journals in 2002:

1. *Cancer*
2. *Clinical Orthopedics and Related Research*
3. *Diagnostic Surgical Pathology*

Faculty Appointments:

1. Georgetown University Medical School, Clinical Professor of Pathology, DE Sweet.
2. Uniformed Services University of the Health Sciences, Clinical Professor of Pathology, DE Sweet.
3. University of Pennsylvania, Associate Professor of Orthopedic Surgery, FH Gannon.
4. Uniformed Services University of the Health Sciences, Assistant Professor of Pathology, FH Gannon.
5. Uniformed Services University of the Health Sciences, Associate Professor of Orthopedic Surgery, FX McGuigan.

Visiting Professorships:

National Naval Hospital, National Naval Academy, Quantico, DeWitt Army Hospital, Consultant Orthopedic Surgeon, FX McGuigan.

Continuing Education: Department staff attended meetings of the Society of Military Orthopedic Surgeons, IAP, ASCP/CAP, and meetings that provided training and information on current research aspects of bone and joint disease.

PRESENTATIONS

1. January 2002: Washington, DC, AFIP, "Skeletal Growth and Development and Mechanisms of Disease," DE Sweet.
2. February 2002: Washington, DC, AFIP, "Skeletal Growth and Development and Mechanisms of Disease," DE Sweet.

3. March 2002: Washington, DC, Georgetown Medical School, "Development of Bone and Pathogenesis of Bone Tumors," DE Sweet.
4. March 2002: Washington, DC, Georgetown Medical School, "Metabolic Bone Disease," DE Sweet.
5. March 2002: Washington, DC, Georgetown Medical School, "Circulatory, Inflammatory, and Paget's Disease of Bone," DE Sweet.
6. March 2002: Washington, DC, Georgetown Medical School, "Arthritic Disorders of Bone," DE Sweet.
7. April 2002: Washington, DC, AFIP, "Skeletal Growth and Development and Mechanisms of Disease," DE Sweet.
8. May 2002: Washington, DC, Georgetown Medical School, "Pathogenesis of Primary Bone Tumors," DE Sweet.
9. May 2002: Washington, DC, Georgetown Medical School, "Radiologic/Pathologic Correlation of Solitary Bone Lesions," DE Sweet.
10. May 2002: Bethesda, Md, AFIP General Surgical Pathology Review Course, "Pathogenesis of Solitary Bone Lesions," FH Gannon.
11. July 2002: Bethesda, Md, AFIP Diagnostic Surgical Pathology Review Course, "Pathogenesis of Primary Bone Tumors and Radiologic/Pathologic Correlation of Solitary Bone Lesions," DE Sweet.
12. July 2002: Washington, DC, AFIP, "Skeletal Growth and Development and Mechanisms of Disease," DE Sweet.
13. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Growth and Development," DE Sweet.
14. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Radiologic/Pathologic Correlation of Solitary Bone Lesions," DE Sweet.
15. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Circulatory Disorders of Bone," DE Sweet.
16. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Fibrous and Cystic Lesions of Bone," DE Sweet.
17. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Cartilage Lesions of Bone," DE Sweet.
18. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Arthritic Disorders of Bone," DE Sweet.
19. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Metabolic Disorders of Bone," FH Gannon.
20. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Periarticular and Soft Tissue Tumors," DE Sweet.
21. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Giant Cell, Round Cell and Vascular Tumors of Bone," DE Sweet.
22. September 2002: Washington, DC, AFIP/ARP Orthopedic Pathology Course and Tutorial, "Unknown Case Discussions and Laboratory Study Sets," FH Gannon, DE Sweet.
23. November 2002: Ottawa, Ontario, Canadian Orthopedic Pathology Course, "Growth and Development," DE Sweet.
24. November 2002: Ottawa, Ontario, Canadian Orthopedic Pathology Course, "Radiologic/Pathologic Correlation of Solitary Bone Lesions," DE Sweet.
25. November 2002: Ottawa, Ontario, Canadian Orthopedic Pathology Course, "Circulatory Disorders of Bone," DE Sweet.
26. November 2002: Ottawa, Ontario, Canadian Orthopedic Pathology Course, "Fibrous and Cystic Lesions of Bone," DE Sweet.
27. November 2002: Ottawa, Ontario, Canadian Orthopedic Pathology Course, "Cartilage Lesions of Bone," DE Sweet.
28. November 2002: Ottawa, Ontario, Canadian Orthopedic Pathology Course, "Arthritic Disorders of Bone," DE Sweet.
29. November 2002: Ottawa, Ontario, Canadian Orthopedic Pathology Course, "Osseous Tumors of Bone," DE Sweet.
30. November 2002: Ottawa, Ontario, Canadian Orthopedic Pathology Course, "Giant Cell, Round Cell and Vascular Tumors of Bone," DE Sweet.

31. December 2002: Washington, DC, AFIP Staff Conference, "Radiologic/Pathologic Correlation of Solitary Bone Lesions," DE Sweet.
32. December 2002: Bethesda, Md, USUHS Small Group Lecture, "Orthopedic Pathology Course/2002," FH Gannon.

PUBLICATIONS

Journal Articles

1. Keisu KS, Orozco F, Sharkey PF, Hozack WJ, Rothman RH, McGuigan FX. Primary cementless total hip arthroplasty in octogenarians. Two to eleven-year follow-up. *J Bone Joint Surg Am.* 2001;83-A:359-363.
2. McGuigan FX, Culp RW. Surgical treatment of intra-articular fractures of the trapezium. *J Hand Surg [Am].* 2002;27:697-703.
3. Schon LC, Edwards WH, McGuigan FX, Hoffman J. Pedobarographic and musculoskeletal examination of collegiate dancers in releve. *Foot Ankle Int.* 2002;23:641-646.
4. Olmsted-Davis EA, Gugala Z, Gannon FH, Yotnda P, McAlhany RE, Lindsey RW, Davis AR. Use of a chimeric adenovirus vector enhances BMP2 production and bone formation. *Hum Gene Ther.* 2002;13:1337-1347.
5. Smith SE, Murphey MD, Motamedi K, Mulligan ME, Resnik CS, Gannon FH. From the archives of the AFIP. Radiologic spectrum of Paget disease of bone and its complications with pathologic correlation. *Radiographics.* 2002;22:1191-1216.
6. Garcia RE, Gannon FH, Thompson LD. Dedifferentiated chondrosarcomas of the larynx: a report of two cases and review of the literature. *Laryngoscope.* 2002;112:1015-1018.
7. Thompson LD, Gannon FH. Chondrosarcoma of the larynx: a clinicopathologic study of 111 cases with a review of the literature. *Am J Surg Pathol.* 2002;26:836-851.
8. Kirschner RE, Gannon FH, Xu J, Wang J, Karmacharya J, Bartlett SP, Whitaker LA. Craniosynostosis and altered patterns of fetal TGF-beta expression induced by intrauterine constraint. *Plast Reconstr Surg.* 2002;109:2338-2346; discussion 2347-2354.
9. Kirschner RE, Karmacharya J, Ong G, Gordon AD, Hunenko O, Losee JE, Gannon FH, Bartlett SP. Repair of the immature craniofacial skeleton with a calcium phosphate cement: quantitative assessment of craniofacial growth. *Ann Plast Surg.* 2002;49:33-38; discussion 38.
10. Burke WV, Temple HT, Kransdorf MJ, Vinh TN. Shoulder mass in a 20-year-old man. *Clin Orthop.* 2002;398:262-265, 270-271.

Other Publications

1. Sweet DE. Radiologic pathologic correlation of solitary bone lesions [syllabus]. AFIP Diagnostic Surgical Pathology Review Course; July 2002.
2. Sweet DE. Growth and development, manifestations of disease, radiographic margins/periosteal reactions/matrix patterns and ancillary studies, pathogenesis of osteonecrosis, benign fibrous and cystic lesions of bone, giant cell tumor and aneurysmal bone cyst, and chondromas of bone [syllabus and CD-ROM]. AFIP/ARP; September 2002.
3. Vinh TN, Sweet DE. Infectious disease of bone and joints/pathophysiology of arthritis [syllabus]. AFIP/ARP; September 2002.
4. Sweet DE. Growth and development, manifestations of disease, radiographic reactions, osteonecrosis, benign fibrous and cystic lesions of bone, giant cell tumor and aneurysmal bone cyst, osseous tumors of bone and arthritis [CD-ROM]. COA Orthopedic Pathology Course, Ottawa, Ontario; November 2002.
5. Vinh TN, Sweet DE. Infectious disease of bone and joints/pathophysiology of arthritis [CD ROM]. COA Orthopedic Pathology Course, Ottawa, Ontario; November 2002.
6. Ward A. U.S. Marine Corps Basic Foot Care [pamphlet].
7. Sweet DE. Giant cell tumor of the trapezius. HQAP 2002.

GOALS

Consultation

1. Provide accurate, timely, and meaningful diagnostic consultations in orthopedic pathology for patient care, and expand our qualitative and quantitative histomorphometric metabolic bone evaluation program.
2. Maintain state-of-the-art diagnostic techniques and information to insure consultative excellence.

3. Eliminate existing laboratory backlog and take measures to preclude future backlogs.

Education

1. Maintain the excellence of the department's Annual Orthopedic and Basic Science Course and Two-Week Tutorial for military orthopedic surgery residents, military pathologists, other federal pathologists, civilian pathologists, and related medical specialists.
2. Provide educational support in orthopedic pathology for nondepartmental AFIP-sponsored and/or AFIP/ARP-cosponsored courses, including Radiologic Pathology, Pediatric Pathology, Radiation Pathology, Renal Pathology, Comparative Pathology, Paleopathology, General Surgical Pathology, and AFIP Seminars.
3. Provide educational support in orthopedic pathology for local, national, and international medical societies and institutes.
4. Refurbish the existing orthopedic pathology A, B, and C study sets and increase the total number of sets from the currently available 45.
5. Develop a condensed orthopedic pathology study set consisting of approximately 100 to 200 glass slides and 300 to 400 2x2s, primarily for use during our one-week pathology course. Complete sets would be provided for all military orthopedic surgery and/or pathology teaching programs, AFIP Education Loan Programs, and 2x2 sets for ARP (5 years).

Research

1. Complete the Non-Neoplastic Bone and Joint Disease AFIP/ARP Fascicle.
2. Continue to develop the Biomechanical and Musculoskeletal Research Laboratory.
3. Expand the Metabolic Bone Research Capability, especially as related to biomechanical injuries associated with osteoporosis, especially in women, and other metabolic bone-related disorders.
4. Continue current combined cooperative research projects with outside medical centers.
5. Expand the radiologic/pathologic correlative concept as currently applied to bone neoplasia, creating a series of monographs and/or ARP/AFIP fascicles on Non-Neoplastic Bone and Joint Diseases (2 years).
6. Complete articles on lipogenic lesions and vascular tumors of bone, adamantinoma of long bone, DNA/ploidy of synovial chondromas, and sternal cartilage tumors (1-2 years).
7. Conduct retrospective follow-up study to determine the validity of DNA content (ploidy studies) in assessing the true malignant potential of light microscopic-diagnosed active, borderline, in situ, low-grade, moderate-grade, and high-grade malignant cartilage tumors (approximately 2,000 cases) (5 years).
8. Retrospective follow-up study to evaluate DNA content (ploidy studies) and/or flow cytometry as a means of identifying true giant cell tumor malignant potential compared to light microscopic diagnoses (5 years).
9. Develop and access new imaging techniques to accurately define the earliest stage and extent of avascular necrosis and evaluate the potential of laser surgery or liposuction as an early corrective measure (1-10 years).
10. Undertake additional independent and cooperative studies such as review and reclassification of the Codman Bone Sarcoma Registry (5 years).



Markku Miettinen, MD, PhD
Chair
Date of Appointment — 1 July 1996



SOFT TISSUE PATHOLOGY

MISSION

The Department of Soft Tissue Pathology provides consultations to the US Armed Forces and federal and civilian contributors worldwide. The department is committed to furthering and distributing knowledge of soft tissue tumors through clinical, pathologic, and molecular genetic investigation and educational presentations.

STAFF

Medical:

- Markku Miettinen, MD, PhD, Chair and Registrar
- John F. Fetsch, MD, Assistant Chair
- Julie C. Fanburg-Smith, MD
- (A) Thomas Dougherty, COL, USAF, MC
- Mohammad Nadjem, COL, MC, USA
- Sumitra L. Parekh, COL, MC, USA
- (D) Fabrizio Remotti, MAJ, MC, USA
- Franz M. Enzinger, MD, Chair Emeritus, Visiting Scientist
- William B. Laskin, MD, Visiting Scientist

Scientific:

- Jerzy Lasota, MD, PhD, Research Pathologist
- Mourad Majidi, PhD, Research Scientist
- Virginia Achstetter, Senior Laboratory Technician

Fellows:

- (D) Janusz Kopczynski
- (D) Hala Makhoulouf
- (A) Agnieszka Dansonka-Mieszkowska

Administrative:

- David Dinges, Administrator
- Charmaine Howard, Secretary
- (D) Cynthia Ordinario

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	462
Army (211)	
Navy (129)	
Air Force (122)	
Federal	365
VA (349)	
OFA (16)	
Civilian	1,588
Interdepartmental	1,506
Total	3,921

1,370 cases required the following types of procedures and analyses:

- H&E stains: 4,293 slides
- Special stains: 497 slides
- Immunohistochemical staining: 11,898 slides
- Total recuts studied: 21,853
- Total contributor slides studied: 13,706

During 2002, the number of military consultations remained essentially unchanged, whereas civilian consultations increased slightly.

Over 20 new antibodies were tested in the Developmental Lab, including those to catenins, plakoglobin, cadherins, and neurofilament subunits. The department continued to provide specifically designed multitumor blocks for controls for the immunohistochemistry laboratory.

EDUCATION

Presentations and Seminars: Department staff gave 23 presentations at professional meetings, symposia, and the Institute. Dr. Fanburg-Smith participated on behalf of the department in the WHO tumor classification workshop for soft tissue and bone tumors in Lyon, France and moderated a bone and soft tissue pathology session at the USCAP annual meeting in Chicago.

Courses: Members of the department presented in AFIP courses locally and internationally, including those held in Washington, DC, Bethesda, and Silver Spring. Dr. Fanburg-Smith codirected the AFIP Annual Anatomic Pathology Course.

Trainees: During 2002, 7 trainees, including 2 full-time Callender-Binford Fellows, attended the department for a total of 313 training days. We also had residents rotating from various programs of military and civilian institutions, and military and civilian visitors reviewing teaching material or participating in collaborative research programs.

RESEARCH

Publications: Department staff published 19 journal articles, 10 abstracts, and 8 book chapters in 2002. Full references are listed at the end of this report.

Projects: The department conducted 12 approved research projects in 2002. They included analysis of specific subsets of smooth muscle and gastrointestinal stromal tumors, vascular, lipomatous, and nerve sheath tumors, including those in the oral and maxillofacial region. Several projects included histologic, immunophenotypic and molecular genetic characterization of the examined tumors, with emphasis on the data synthesis to increase understanding of the biologic nature of these tumors to benefit diagnosis and optimize the treatment. Numerous multitumor blocks and tumor arrays were prepared to support departmental research and interdepartmental collaboration. Results of the research on tumor phenotyping and mutation studies provided new tools that were directly applied in consultation practice. Studies on the molecular genetics of gastrointestinal stromal tumors continued and were the subject of several publications and invited presentations around the world.

OTHER ACCOMPLISHMENTS

Collaborators:

Civilian:

1. W. Laskin, Northwestern University, Chicago, Ill
2. A. Folpe and S. Weiss, Emory University, Atlanta, Ga
3. W. El-Rifai, University of Virginia, Charlottesville
4. J. Lee, VA Hospital, Augusta, Ga

International:

1. S. Gozdz, Holy Cross Cancer Center, Kielce, Poland
2. R. Kordek, Department of Pathology, Medical University of Lodz, Poland
3. J. Limon, Department of Genetics, Medical Academy of Gdansk, Poland
4. M. Michal, Department of Pathology, Karlova University of Pilsen, Czech Republic
5. A. Paetau, Department of Pathology, Haartman Institute, University of Helsinki, Finland
6. A. Roessner, Department of Pathology, Otto von Guericke University, Magdeburg, Germany

7. J. Rys, Department of Pathology, Marie Skłodowska-Curie Institute, Krakow, Poland
8. R. Scheider-Stock, Department of Pathology, Otto von Guericke University, Magdeburg, Germany
9. M. Sarlomo-Rikala, Department of Pathology, Haartman Institute, University of Helsinki, Finland
10. J. Stachura, Department of Pathology, Jagellonian University, Krakow, Poland

Interdepartmental:

1. E. Childers, Department of Oral and Maxillofacial Pathology
2. D. Frost, Department of Veterinary Pathology
3. T. O'Leary, Department of Cellular Pathology
4. H. Mena and E. Rushing, Department of Neuropathology
5. M. Murphey, Department of Radiologic Pathology
6. L. Sobin, Division of Gastrointestinal Pathology
7. L. Thompson, Department of Otorhinolaryngic Pathology
8. W. Travis, Department of Pulmonary Pathology

Committees:

Editorial Boards:

M Miettinen:

1. *Human Pathology*
2. *Virchows Archiv*
3. *Annals of Diagnostic Pathology*
4. *Applied Immunohistochemistry*
5. *Pathology Research and Practice*
6. *Journal of Urologic Pathology*
7. *American Journal of Surgical Pathology*

JC Fanburg-Smith:

1. *Annals of Diagnostic Pathology*
2. *Modern Pathology*
3. *Cancer Journal*
4. *Journal of Clinical Pathology*
5. *USCAP Annual Meeting Abstracts*

J Lasota:

Human Pathology

Manuscripts Reviewed: Members of the department reviewed 65 articles for journals of pathology and related specialties.

Faculty Appointments:

M Miettinen:

1. University of Helsinki, Finland, Adjunct Professor of Pathology.
2. Jefferson Medical College, Thomas Jefferson University, Philadelphia, Pa, Adjunct Professor of Pathology, Anatomy and Cell Biology.

JC Fanburg-Smith:

1. Johns Hopkins University, Baltimore, Md, Lecturer.
2. Department of Pathology, USUHS, F. Edward Hebert School of Medicine, Instructor in Pathology.
3. Georgetown University Medical Center, Department of Pathology, Adjunct Associate Professor.

PRESENTATIONS

1. March 2002: Chicago, Ill, USCAP Meeting, "Gastrointestinal glomus tumors," M Miettinen.
2. March 2002: Chicago, Ill, USCAP Meeting, "Oral and salivary gland angiosarcoma," JC Fanburg-Smith.
3. March 2002: Chicago, Ill, USCAP Meeting, "Hemangioma of the salivary glands, oral and

- maxillofacial region," JC Fanburg-Smith.
4. March 2002: Chicago, Ill, USCAP Meeting, "Plexiform xanthomatous tumor," JC Fanburg-Smith.
 5. March 2002: Chicago, Ill, USCAP Meeting, "Gastrointestinal nerve sheath tumors," J Lasota.
 6. April 2002: Houston, Tex, University of Texas, "Pathology of gastrointestinal stromal tumors," M Miettinen.
 7. April 2002: Houston, Tex, University of Texas, "Recent advances in molecular pathology of gastrointestinal stromal tumors," J Lasota.
 8. May 2002: Ixtapa, Mexico, Annual Meeting of Mexican Division of IAP, "Advances in tumor immunohistochemistry," M Miettinen.
 9. May 2002: Ixtapa, Mexico, Annual Meeting of Mexican Division of IAP, "Pathology of soft tissue tumors," M Miettinen.
 10. May 2002: Washington, DC, AFIP Staff Conference, "Lipofibromatosis," JF Fetsch.
 11. May 2002: Washington, DC, AFIP Staff Conference, "Are all KIT mutations in GISTs equal?" J Lasota.
 12. May 2002: Gliwice, Poland, Congress of Oncology, "Gastrointestinal stromal tumors: clinical significance of molecular changes," J Lasota.
 13. May 2002: Washington, DC, AFIP Staff Conference, "KIT-signaling in gastrointestinal stromal tumors," M Majidi.
 14. June 2002: Pamplona, Spain, Second Course of Molecular Pathology, "Molecular pathologic analysis of soft tissue tumors," M Miettinen.
 15. September 2002: London, England, GIST Symposium, "Definition and histological diagnosis of gastrointestinal stromal tumors," M Miettinen.
 16. September 2002: London, England, GIST Symposium, Panel Discussion, "Molecular pathology of GIST," J Lasota.
 17. November 2002: Krakow, Poland, "Definition and histological diagnosis of gastrointestinal stromal tumors," M Miettinen.
 18. November 2002: San Juan, PR, Annual Eduardo Koppisch Lecture, "Gastrointestinal stromal tumors: from histopathology to molecular pathogenesis," M Miettinen.
 19. November 2002: San Juan, PR, "Selected problems in soft tissue tumor pathology," M Miettinen.
 20. November 2002: San Juan, PR, "Slide seminar: soft tissue tumors," M Miettinen.
 21. November 2002: Washington, DC, George Washington University, Department of Pathology, "Fibroblastic and nerve sheath tumors," JC Fanburg-Smith.
 22. November 2002: Krakow, Poland, GIST Symposium, "GIST: molecular genetics in the understanding of diagnosis, pathogenesis and treatment," J Lasota.
 23. December 2002: Washington, DC, Georgetown University, "Update on gastrointestinal stromal tumors," M Miettinen.

PUBLICATIONS

Journal Articles

1. Bijwaard KE, Fetsch JF, Przygogodzki R, Taubenberger J, Lichy JH. Detection of SYT-SSX fusion transcripts in archival synovial sarcoma by real-time reverse transcriptase polymerase chain reaction. *J Mol Diagn.* 2002;4:59-64.
2. Childers EL, Furlong MA, Fanburg-Smith JC. Hemangioma of the salivary gland: a study of ten cases of a rarely biopsied entity. *Ann Diagn Pathol.* 2002;6:339-344.
3. Debiec-Rychter M, Pauwels P, Lasota J, Franke S, De Vos R, de Wever I, Hagemeijer A, Sciort R. Complex genetic alterations in gastrointestinal stromal tumors with autonomic nerve differentiation (GANTs). *Mod Pathol.* 2002;15:692-698.
4. Fanburg-Smith JC, Furlong MA, Childers EL. Liposarcoma of the oral and salivary gland region. A clinicopathologic study of 18 cases with emphasis on specific sites, morphologic subtypes, and clinical outcome. *Mod Pathol.* 2002;15:1020-1031.
5. Fletcher CD, Berman JJ, Corless C, Gorstein F, Lasota J, Longley BJ, Miettinen M, O'Leary TJ, Remotti H, Rubin BP, Shmookler B, Sobin LH, Weiss SW. Diagnosis of gastrointestinal stromal tumors: a consensus approach. *Hum Pathol.* 2002;33:459-465.
6. Laskin WB, Miettinen M. Epithelial-type and neural-type cadherin expression in malig-

- nant noncarcinomatous neoplasms with epithelioid features that involve the soft tissues. *Arch Pathol Lab Med.* 2002;126:425-431.
7. Lasota J, Kopczynski J, Majidi M, Sarlomo-Rikala M, Miettinen M. Apparent KIT Ser⁷¹⁵ deletion in GISTs mRNA is not detectable in genomic DNA and represents a previously known splice variant of KIT transcript. *Am J Pathol.* 2002;161:739-741.
 8. Makhoulf HR, Ishak KG, Shekar R, Sesterhenn IA, Young DY, Fanburg-Smith JC. Melanoma markers in angiomyolipoma of the liver and kidney: a comparative study. *Arch Pathol Lab Med.* 2002;126:49-55.
 9. Michal M, Fanburg-Smith JC. Plexiform xanthomatous tumor. A report of 20 cases in 12 patients. *Am J Surg Pathol.* 2002;26:1302-1311.
 10. Michal M, Bisceglia M, Di Mattia A, Requena L, Fanburg-Smith JC, Mukenschabl P, Hes O, Cada F. Gigantic cutaneous horns of the scalp. Lesions with a gross similarity to horns of animals: a report of four cases. *Am J Surg Pathol.* 2002;26:789-794.
 11. Michal M, Fanburg-Smith JC, Mentzel T, Kutzner H, Requena L, Zamecnik M, Miettinen M. Cutaneous dendritic cell tumor with pseudorosettes. Response to the letter to the editor. *Am J Surg Pathol.* 2002;26:1644-1648.
 12. Miettinen M, El-Rifai W, Lasota J, Sobin LH. Evaluation of malignancy and prognosis of gastrointestinal stromal tumors: a review. *Hum Pathol.* 2002;33:478-483.
 13. Miettinen M, Majidi M, Lasota J. Pathology and diagnostic criteria of gastrointestinal stromal tumors (GISTs): a review. *Eur J Cancer.* 2002;38:S39-S51.
 14. Miettinen M. New challenges in the identification of gastrointestinal stromal tumors and other possible KIT-driven tumors. *Am J Clin Pathol.* 2002;117:183-185.
 15. Miettinen M, Paal E, Lasota J, Sobin LH. Gastrointestinal glomus tumors: a clinicopathologic, immunohistochemical, and molecular genetic study of 32 cases. *Am J Surg Pathol.* 2002;26:301-311.
 16. Miettinen M, Paetau A. Mapping of keratin polypeptides in meningiomas. An immunohistochemical study of 463 cases. *Hum Pathol.* 2002;30:590-598.
 17. Murphey MD, McRae GA, Fanburg-Smith JC, Temple HT, Levine AM, Aboulafia AJ. Imaging of soft tissue myxoma with emphasis on CT and MRI and comparison of radiologic and pathologic findings. *Radiology.* 2002;225:215-224.
 18. Sarlomo-Rikala M, Tsujimura T, Lendahl U, Miettinen M. Patterns of nestin and other intermediate filament expression distinguish between gastrointestinal stromal tumors, leiomyomas and schwannomas. *APMIS.* 2002;110:499-507.
 19. Thompson LD, Wieneke JA, Miettinen M, Heffner DK. Spindle cell (sarcomatoid) carcinomas of the larynx: a clinicopathologic study of 187 cases. *Am J Surg Pathol.* 2002;26:153-170.

Abstracts

1. Childers EL, Furlong MA, Fanburg-Smith JC. Hemangioma of the salivary gland: a study of ten cases of a rarely biopsied/excised lesion. *Mod Pathol.* 2002;15:215A.
2. Childers EL, Furlong MA, Fanburg-Smith JC. Oral and maxillofacial lipomas. A clinicopathologic study of 125 cases. *Mod Pathol.* 2002;15:17A.
3. Fanburg-Smith JC, Furlong MA, Childers EL. Oral and salivary gland angiosarcoma. A clinicopathologic study of 29 cases. *Mod Pathol.* 2002;15:13A.
4. Furlong MA, Remotti H, Miettinen M. Uterine-type leiomyomas of the colon and rectum: a histologic and immunohistochemical analysis of 17 cases. *Mod Pathol.* 2002;15:126A.
5. Laskin WB, Fetsch JF, Kopczynski J, Lasota J, Miettinen M. Benign epithelioid nerve sheath tumor: a study of 31 cases. *Mod Pathol.* 2002;15:17A.
6. Lasota J, Wasag B, Millward CL, Rys J, Sobin LH, Miettinen M. NF1 but not NF2 gene is altered in distinctive gastrointestinal nerve sheath tumors traditionally diagnosed as benign schwannomas: a molecular genetic study based on 14 cases. *Mod Pathol.* 2002;15:134A.
7. Michal M, Fanburg-Smith JC. Plexiform xanthomatous tumor. A clinicopathologic study of 20 cases. *Mod Pathol.* 2002;15:19A.
8. Miettinen M, Paal E, Lasota J, Sobin LH. Gastrointestinal glomus tumors: a clinicopathologic, immunohistochemical, and molecular genetic study of 32 cases. *Mod Pathol.* 2002;15:138A.
9. Thompson LD, Miettinen M, Wenig BM. Sinonasal tract hemangiopericytoma: a clinicopathologic and immunophenotypic analysis of 104 cases. *Mod Pathol.* 2002;15:225A.

10. Wieneke JA, Miettinen M, Thompson LD. Sinonasal tract melanomas: a clinicopathologic and immunophenotypic analysis of 115 cases. *Mod Pathol*. 2002;15:226A.

Book Chapters

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2. Fetsch JF. Epithelioid hemangioma. In: Fletcher CD, Unni KK, Mertens F, eds. *WHO Classification of Tumours. Pathology and Genetics of Tumours of Soft Tissue and Bone*. Lyon, France: IARC Press; 2002:159-160.
3. Fetsch JF, Stenman G. "Deep" aggressive angiomyxoma. In: Fletcher CD, Unni KK, Mertens F, eds. *WHO Classification of Tumours. Pathology and Genetics of Tumours of Soft Tissue and Bone*. Lyon, France: IARC Press; 2002:189-190.
4. Miettinen M, Bridge JA. Desmoplastic fibroblastoma. In: Fletcher CD, Unni KK, Mertens F, eds. *WHO Classification of Tumours. Pathology and Genetics of Tumours of Soft Tissue and Bone*. Lyon, France: IARC Press; 2002:67.
5. Miettinen M, Mandahl N. Spindle cell lipoma. In: Fletcher CD, Unni KK, Mertens F, eds. *WHO Classification of Tumours. Pathology and Genetics of Tumours of Soft Tissue and Bone*. Lyon, France: IARC Press; 2002:33-34.
6. Miettinen M, Fanburg-Smith JC, Mandahl N. Hibernoma. In: Fletcher CD, Unni KK, Mertens F, eds. *WHO Classification of Tumours. Pathology and Genetics of Tumours of Soft Tissue and Bone*. Lyon, France: IARC Press; 2002:33-34.
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8. Weiss SW, Lasota J, Miettinen M. Angiosarcoma. In: Fletcher CD, Unni KK, Mertens F, eds. *WHO Classification of Tumours. Pathology and Genetics of Tumours of Soft Tissue and Bone*. Lyon, France: IARC Press; 2002:175-177.

■ GROUP 2

HEART, LUNG & AERODIGESTIVE DISEASES

CARDIOVASCULAR PATHOLOGY

ENDOCRINE & OTORHINOLARYNGIC/
HEAD-NECK PATHOLOGY

HEPATIC & GASTROINTESTINAL
PATHOLOGY

ORAL & MAXILLOFACIAL PATHOLOGY

PULMONARY & MEDIASTINAL
PATHOLOGY





Renu Virmani, MD
Chair
Date of Appointment—2 September 1984



DEPARTMENT OF CARDIOVASCULAR PATHOLOGY

MISSION

The Department of Cardiovascular Pathology supports the mission of the Armed Forces Institute of Pathology by providing consultation, education, and research on the cardiovascular system and its pathological conditions for the active military force, the Department of Veterans Affairs, and other federal and civilian agencies.

STAFF

Medical:

- Renu Virmani, MD
- Allen Burke, MD
- Andrew Farb, MD
- Frank D. Kolodgie, PhD
- Robert Kutys, MS
- Erik Mont, MD
- Herman Gold, MD (20%)

Scientific:

- Wendy Creighton, MD, Research Scientist, ARP
- You-hui Liang, MD, Research Assistant
- Helwig Avallone, Histopathology Laboratory Supervisor, ARP
- Heng-jing Ouyang, MD, Histopathology Technician, ARP
- Xin Xu, Histopathology Technician, ARP
- Russell M. Jones, Research Associate, ARP
- Lila Adams, Research Associate, ARP
- Patricia S. Wilson, Research Assistant, ARP
- (D) Michael John, Research Assistant
- Deena Weber, Research Scientist, ARP
- Leslie Keefer, Research Assistant, ARP
- (D) Kimberly Trent, Histopathology Technician
- Rosalind Matthew, Histopathology Technician, ARP
- Jinky Beyer, Histopathology Technician, ARP
- Abebe Atiso, Histopathology Technician, ARP
- Eduardo Acampado, Research Associate, ARP
- Elias Rivera, Physician Assistant, ARP
- (A) Addis Taye, Research Assistant, ARP
- (A) Paul Yates, Research Assistant, ARP
- (A) Kirubel Tefera, Research Assistant, ARP
- (A) Nasrin Klantaripour, Research Assistant, ARP

Administrative:

- Leslie Middleton, Administrative Officer
- Carol Ward, MSG, USA (Ret)

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	79
Army (39)	
Navy (26)	
Air Force (14)	
Foreign Military	1
Federal	52
VA (41)	
OFA (11)	
Civilian	718
Interdepartmental	122
Total	972

The department receives many complex cases, the vast majority of which are submitted with only gross tissue and without prior diagnosis from the contributing pathologist. Cases that come in with gross hearts require several hours of dissection and submission of several blocks, which often require gross photography and special stains. Review of gross tissue includes a detailed study of the coronary tree, including cases with bypass grafts, and a detailed study of the conduction system, requiring special staining of dozens of slides each. Vascular implants are studied histologically, necessitating plastic embedding and special sectioning procedures. In 2002, the department received and processed 19 temporal artery biopsies, many of which required serial sectioning, and 31 heart tumors requiring extensive immunohistochemical studies. The remainder of the department's caseload represented a variety of lesions. Several of the gross hearts accessioned from local military hospitals were examined with the submitting resident pathologist, contributing to residency training.

AFIP central laboratory facilities provided the following laboratory support:

- Work orders processed: 811
- Blocks prepared: 1,741
- Slides prepared:
 - H&E: 3,960
 - Special stains: 1,336
 - Unstained: 2,029
- Wet tissue processing: 3,305
- Electron microscopy: 16

Our department laboratories prepared approximately 4,132 blocks and approximately 22,974 slides (routine, special, unstained).

Impact:

In the last 50 years, although understanding of atherosclerotic heart disease has markedly increased, the incidence of sudden coronary death has not decreased. It is estimated that in the United States the incidence of sudden cardiac death ranges from 300,000 to 400,000 annually, which represents 50% or more of all cardiovascular deaths. Our laboratory has been in the forefront of advances in the understanding of coronary atherosclerosis and thrombosis. We have continued to study the effects of various risk factors on the type of atherosclerotic plaque. This year we published data regarding the role of serum elevations in high sensitivity C-reactive proteins and homocysteine on plaque stability and instability. We also collaborated with Dr. Thomas Wight on the role of extracellular matrix, specifically hyaluronan and proteoglycan versican were found to be present in high concentration in plaque erosions, whereas biglycan and decorin were only weakly expressed. We are currently trying to understand why patients with diabetes do poorly, whether their atherosclerotic plaques are richer in macrophage content, and what factors play a role in diffuse disease.

Because sudden unexpected death is a common presentation of young military recruits, we are studying genotypes of channel genes and collaborating with the OAFME in the epidemiologic study of sudden cardiac deaths. We are also studying the incidence of myocarditis following smallpox vaccination, and whether the incidence of sudden cardiac death caused

by myocarditis has decreased in the recruit population in the last decade.

The number of vascular interventions performed in the United States continues to increase, as has the incidence of restenosis. We are continuing to explore in man and animals the causes of stent failure and new technologies that may help lower the incidence of restenosis. This is being accomplished by improved stent designs and materials, and by loading drugs on the stents in the presence and absence of polymers. In 2002, we showed that oral and parenteral drugs may be helpful in reducing the incidence of restenosis, and that repeated intravenous therapy may help to prevent the reappearance of neointima. These new technologies are currently in clinical trials. Through new technologies, we have reduced the time required to cut stents in the plastic laboratory, and increased output. Our laboratory now processes at least 150 stents per month, resulting in increased revenues.

EDUCATION

Presentations and Seminars: Members of the department conducted over 82 seminars nationally and abroad. A complete list of dates and titles appears at the end of this report.

Our department conducted weekly microscopic conferences to review cases and research results with staff and invited guests. We provided clinicopathologic conferences at the Maryland Medical Examiner's Office (monthly), Howard University (bimonthly), Walter Reed Army Medical Center Cardiology (monthly), Georgetown University (quarterly), the Veterans Affairs Hospital in Washington, DC (quarterly), and the Washington Hospital Center (monthly). Slide seminars and lectures were presented at Walter Reed Pathology (1) and the National Naval Medical Center (1).

The department chair served on 2 panel workshops in 2002:

1. Women and Ischemia Syndrome Evaluation (WISE) Workshop, sponsored by the National Heart, Lung and Blood Institute/NIH.
2. Medical Implant Research Panel, cosponsored by the FDA/NIH/NIST.

Courses: Members of our department conducted or participated in 4 courses in 2002:

1. Update and Review of Anatomic Pathology, AFIP
2. Pathology of Vasculitic Syndromes, International Academy of Pathology
3. Non-Neoplastic Lung Disease, International Academy of Pathology
4. Vasculitis Slide Seminar, American College of Rheumatology

Trainees: Department staff provided training to a Callender-Binford Fellow (251 days), a medical student Red Cross Volunteer (126 days), and military trainees (9 days).

RESEARCH

Publications: Members of our department published 23 journal articles and 8 book chapters, and presented 13 abstracts. Complete bibliographic information is listed at the end of this report.

Projects: The department maintains 25 AFIP-approved research protocols and 1 education protocol. Two research projects have a direct impact on military readiness: 1) a study of sudden death in military recruits, and 2) a collaboration with Oregon Medical Laser Center to develop elastin grafts for the treatment of combat casualties.

Research Funds Received:

1. Cholesterol and Plaque Rupture, NIH/NHLBI, \$720,000 (\$180,000 yearly, 1998-2002), R Virmani, PI.
2. Battlefield Surgical Tissue Replacement and Repair Using an Elastin Biomaterial Deployed Via Dye-Targeted Laser Fusion, Earle A. Chiles Research Institute, Oregon Medical Laser Center, Portland, Ore, March 1997 - February 2003, 5% (being extended to February 2005), \$100,000/year, KW Gregory, PI.
3. Plaque Progression, Apoptosis and Inflammation, NIH/NHLBI [1R01HL71148-01], \$1,585,723, April 2002 – March 2007.

In addition, we invoiced/received \$1,903,036.33 from the following private companies to support research in stents and other cardiovascular interventions:

1. WL Gore & Associates - Palo Alto, Calif
2. SciMed Life Systems, Inc. - Maple Grove, Minn
3. Advanced Cardiovascular Systems/Guidant Corp. - Santa Clara, Calif
4. TransVascular Inc. - Menlo Park, Calif

5. Pharmasonics, Inc. - Sunnyvale, Calif
6. Sorin Biomedica- Saluggia, Italy
7. AVE – Santa Rosa, Calif
8. Boston Scientific - Watertown, Mass
9. American Bio Science - Santa Monica, Calif
10. Appriva Medical - Sunnyvale, Calif
11. Cordis - Warren, NJ
12. Kensey Nash - Exton, Pa
13. MD3 - San Diego, Calif
14. MicroVena - White Bear Lake, Minn
15. Mind Guard - Israel
16. Novartis - Summit, NJ
17. Oregon Medical Laser - Portland, Ore
18. Paracor Surgical - Sunnyvale, Calif
19. Stanford University - Stanford, Calif
20. Vascular Concepts - London, England
21. VenPro - Santa Ana, Calif
22. JOMED – Germany
23. Guidant – Santa Clara, Calif
24. Endovascular – Vancouver, Wash
25. CryoVascular Systems – Los Gatos, Calif
26. VasConnect – Walnut Creek, Calif
27. Medtronic Heart Valves – Santa Ana, Calif
28. Arteria Medical – Newburyport, Mass
29. Embolic Protection – San Carlos, Calif
30. ev3 – Santa Rosa, Calif
31. InfraReDx – Cambridge, Mass
32. MCP Hahnemann University – Philadelphia, Pa
33. TopSpin Medical – Israel
34. Reva Medical – San Diego, Calif
35. Coalescent Surgical – Sunnyvale, Calif
36. Mayo Clinic – Rochester, Minn
37. 3F – Lake Forest, Calif
38. BioPure – Cambridge, Mass
39. Percutaneous Valve Tech – Ft. Lee, NJ
40. Providence Health System – Ore
41. Advanced Stent Technology – Pleasanton, Calif

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Florabel G. Mullick, MD, ScD, SES, Drug-Induced Cardiac Pathology
2. Allen Taylor, MAJ, MC, USA, Endovascular Stenting, Coronary Artery Disease
3. John Tighe, MAJ, MC, USA, Cardiology/Intravascular Ultrasound
4. Timothy O’Leary, PhD, Molecular Biology
5. Mei Sheng, PhD, Molecular Biology
6. Anthony E. Pusateri, PhD, US Army Institute of Surgical Research
7. Nick Jensen, Food and Drug Administration Device Evaluation

Civilian:

1. Steven Schwartz, Vascular Pathology
2. Andrew Carter, Endoluminal Stenting
3. Jung-Ling Yuan, Apoptosis

4. David Dichek, Gene Transfer
5. Arthur Zieske, Lipid Studies
6. Dennis Fowler, Forensic Pathology
7. Thomas Wight, Proteoglycans
8. Jacob Varghese, Coronary Atherosclerosis
9. Herman Gold, Interventional Cardiology
10. William Edwards, Cardiovascular Pathology
11. Stephen Oesterle, Interventional Cardiology
12. Augusto Pichard, Interventional Cardiology
13. Jagat Narula, Nuclear Cardiology, Cardiac Physiology
14. Louis Fink, Homocysteine and Risk Factors
15. Neil Weissman, Intravascular Ultrasound
16. Robert Schwartz, Endovascular Stents
17. Michael Mack, Aortosaphenous Vein Graft - Anastomosis
18. Steven Ramee, Endovascular Stents
19. Mun Hong, Endovascular Stenting
20. Gary Mintz, Intravascular Ultrasound
21. Richard Gallo, Cardiac Angiogenesis
22. Henry Tazelaar, Cardiopulmonary Pathology
23. Julio Palmaz, Stent Contaminants

International:

1. Eloisa Arbustini, Cardiac Pathology, Genetic Diseases
2. Max Sangiorgi, Coronary Artery Disease and Interventions
3. Giulio Gabbiani, Smooth Muscle Cell Biology
4. Giulio Guagliumi, Drug-Eluting Stents

Committees:

Editorial Boards:

R Virmani:

1. *Human Pathology*
2. *Modern Pathology*
3. *Circulation*
4. *Journal of Invasive Cardiology*
5. *Cardiovascular Pathology*
6. *Pathology Case Review*
7. *Cardiovascular Radiation Medicine*
8. *Atherosclerosis, Arteriosclerosis, Thrombosis, and Vascular Biology*
9. *Catheterization and Cardiovascular Interventions*

A Burke:

Pathology

Manuscripts Reviewed: Members of the department reviewed 150 articles for the following professional journals:

1. *Journal of the American College of Cardiology*
2. *American Journal of Clinical Pathology*
3. *Laboratory Investigation*
2. *Human Pathology*
3. *Modern Pathology*
4. *Circulation*
5. *Cardiovascular Pathology*
6. *Pathology Case Review*
7. *Cardiovascular Radiation Medicine*
8. *Archives of Pathology and Laboratory Medicine*
9. *Mayo Clinic Proceedings*

10. *American Journal of Pathology*
11. *Cardiovascular and Interventional Radiology*
12. *American Journal of Cardiology*
13. *Journal of Respiratory Distress*
14. *New England Journal of Medicine*
15. *Lancet*
16. *Atherosclerosis, Arteriosclerosis, Thrombosis, and Vascular Biology*
17. *Journal of Invasive Cardiology*
18. *Catheterization and Cardiovascular Interventions*

Faculty Appointments:

R Virmani:

1. Georgetown University, Clinical Professor, Department of Pathology
2. University of Maryland-Baltimore, Clinical Professor, Department of Pathology
3. Uniformed Services University of the Health Sciences, Clinical Professor, Department of Pathology
4. George Washington University, Clinical Professor, Department of Pathology
5. Vanderbilt University, Nashville, Tenn, Clinical Research Professor, Department of Pathology

A Burke:

1. Georgetown University, Adjunct Professor of Pathology
2. Uniformed Services University of the Health Sciences, Clinical Associate Professor
3. Howard University Hospital, Associate Professor of Pathology

A Farb:

1. Uniformed Services University of the Health Sciences, Clinical Assistant Professor of Pathology
2. Georgetown University Medical Center, Clinical Assistant Professor of Medicine (Cardiology) and Pathology

F. Kolodgie:

University of Maryland-Baltimore, Assistant Professor of Pathology

Official Trips (funding agency in parentheses):

1. January 2002, Proteomics Meeting, University of Kansas Medical Center, Kansas City, Mo, R Virmani (University of KS).
2. January 2002, International Symposium on Endovascular Therapy (ISET), Miami Beach, Fla, R Virmani (Miami Cardiac & Vascular Institute).
3. January 2002, 11th Singapore Live Interventions in Vascular Endotherapy (LIVE) Course, Singapore, Malaysia, R Virmani (Guidant).
4. January 2002, 8th International Local Drug Delivery Meeting and Cardiovascular Course, Geneva, Switzerland, R Virmani (Boston Scientific).
5. February 2002, Paracor Scientific Meeting, Allegheny General Hospital, Pittsburgh, Pa, R Virmani (Paracor).
6. February 2002, 11th Kurashiki PTCA Live Demonstration Course, Kansai (Kurashiki), Japan, R Virmani (Guidant).
7. March 2002, American College of Cardiology – 51st Annual Scientific Session, Atlanta, Ga, R Virmani (ARP).
8. March 2002, American College of Cardiology – 51st Annual Scientific Session, Atlanta, Ga, A Burke (ARP).
9. March 2002, American College of Cardiology – 51st Annual Scientific Session, Atlanta, Ga, A Farb (ARP).
10. April 2002, Endocoronary Biomechanics & Restenosis Symposium, Marseille, France, R Virmani (Organizing Committee).
11. April 2002, 7th Angioplasty Summit Course, Seoul, Korea, R Virmani (Asan Medical Center Organizing Committee).
12. May 2002, 5th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Montreal, Canada, R Virmani (ISSFAL, NIH, ARP).

13. May 2002, Society for Cardiac Angioplasty and Interventions (SCA&I) Meeting, Seattle, Wash, R Virmani (SCA&I).
14. May 2002, EURO PCR 2002 Revascularization Course, Paris, France, R Virmani (EURO PCR Organizing Committee).
15. July 2002, NeuroConference – Global Endovascular Complications Seminar, Jackson Hole, Wyo, R Virmani (NeuroConference).
16. September 2002, International Symposium on Insulin Action, Insulin Resistance, Inflammation and Atherosclerosis, Niagara Falls, NY, R Virmani (Diabetes-Endocrinology Center of Western NY).
17. September 2002, American College of Cardiology (ACC) Review Board, Chicago, Ill, R Virmani (ACC Foundation/ARP).
18. September 2002, Surfaces in Biomaterials Meeting 2002, Scottsdale, Ariz, A Farb (Organizing Committee/ARP).
19. October 2002, 24th International Congress of the International Academy of Pathology, Amsterdam, The Netherlands, R Virmani (ARP).
20. October 2002, 24th International Congress of the International Academy of Pathology, Amsterdam, The Netherlands, A Burke (ARP)
21. October 2002, 23rd National Congress of the Italian Society of Invasive Cardiology (GISE), Verona, Italy, R Virmani (GISE).
22. October 2002, 4th Annual International Symposium on Advances in Understanding Aortic Diseases, San Francisco, Calif, A Burke (Stanford).
23. October 2002, American College of Rheumatology 66th ACR Annual Scientific Meeting, New Orleans, La, A Burke (ACR).
24. October/November 2002, Complex Catheter Therapeutics (CCT) 2002, Kobe, Japan, R Virmani (CCT).
25. November 2002, 75th Scientific Sessions, American Heart Association, Chicago, Ill, R Virmani (ARP).
26. November 2002, 75th Scientific Sessions, American Heart Association, Chicago, Ill, A Burke (ARP).
27. November 2002, 75th Scientific Sessions, American Heart Association, Chicago, Ill, A Farb (ARP).
28. November 2002, 29th Global Vascular and Endovascular Issues, Techniques and Horizons (VEITH) Symposium, New York, NY, R Virmani (VEITH/ARP).
29. December 2002, 13th International Course on Interventional Cardiology, Frankfurt, Germany, R Virmani (Organizing Committee).
30. December 2002, Oregon Medical Laser Center (OMLC), US Army Tissue Replacement and Repair Annual Review Meeting, Portland, Ore, A Burke (OMLC).

Continuing Education: Staff members attended training courses at the following venues in 2002:

1. Cardiovascular Revascularization Therapy, Washington, DC
2. 2001/2002 AFIP Weekly Professional Staff Conferences
3. Transcatheter Cardiovascular Therapeutics 2002, Washington, DC
4. Scientific Sessions, American Heart Association, Chicago, Ill
5. American College of Rheumatology, New Orleans, La
6. International Congress of the International Academy of Pathology, Amsterdam, The Netherlands
7. Stanford University School of Medicine 4th Annual Symposium on Aortic Diseases, San Francisco, Calif
8. Armed Forces Institute of Pathology Anatomic Pathology Course, Washington, DC
9. American College of Cardiology 51st Annual Scientific Sessions, Atlanta, Ga
10. National Society for Histotechnologists, Long Beach, Calif
11. International Symposium on Endovascular Therapy, Miami Beach, Fla

PRESENTATIONS

1. January 2002: Miami Beach, Fla, International Symposium on Endovascular Therapy, “Histopathology of restenosis,” R Virmani.

2. January 2002: Miami Beach, Fla, International Symposium on Endovascular Therapy, "Pathology of intravascular radiation therapy," R Virmani.
3. January 2002: Miami Beach, Fla, International Symposium on Endovascular Therapy, "Carotid artery atherosclerosis," R Virmani.
4. January 2002: Miami Beach, Fla, International Symposium on Endovascular Therapy, "Analysis of particulates from protection devices," R Virmani.
5. January 2002: Singapore, Malaysia, 11th Singapore Live Interventions in Vascular Endotherapy (LIVE) Course, "Brachytherapy and drug-eluting stents: pathophysiology and long-term consequences," R Virmani.
6. January 2002: Singapore, Malaysia, 11th Singapore Live Interventions in Vascular Endotherapy (LIVE) Course, "Chronic total occlusion (CTO): mistakes to avoid," R Virmani.
7. February 2002: Geneva, Switzerland, 8th International Local Drug Delivery Meeting and Cardiovascular Course, "Vasculo-pathological lesson from brachytherapy: lessons from animal work," R Virmani.
8. February 2002: Geneva, Switzerland, 8th International Local Drug Delivery Meeting and Cardiovascular Course, "Experimental data: critical perspective on drug-eluting stents," R Virmani.
9. February 2002: Washington, DC, Cardiovascular Revascularization Therapy (CRT) 2002 Scientific Sessions, "Plastic embedding/processing: a primer," R Virmani.
10. February 2002: Washington, DC, Cardiovascular Revascularization Therapy (CRT) 2002 Scientific Sessions, "Vascular brachytherapy vs. drug-coated stents: watch for late effects," R Virmani.
11. February 2002: Washington, DC, Cardiovascular Revascularization Therapy (CRT) 2002 Scientific Sessions, "The ideal animal model for restenosis," R Virmani.
12. February 2002: Washington, DC, Cardiovascular Revascularization Therapy (CRT) 2002 Scientific Sessions, "Does radiation of coronary arteries lead to long-term lumen patency?" R Virmani.
13. February 2002: Washington, DC, Cardiovascular Revascularization Therapy (CRT) 2002 Scientific Sessions, "Drug-coated stents: similarities and differences with vascular brachytherapy," R Virmani.
14. February 2002: Washington, DC, Cardiovascular Revascularization Therapy 2002, "Histomorphometry and microscopic and macroscopic sessions with the pathologist: results from human observations," A Farb.
15. February 2002: Washington, DC, Cardiovascular Revascularization Therapy 2002, "Histomorphometry and microscopic and macroscopic sessions with the pathologist: relationships to human tissue," A Farb.
16. February 2002: Washington, DC, Cardiovascular Revascularization Therapy 2002, "The I's of restenosis: inflammation and injury—the pathologist's perspective," A Farb.
17. February 2002: Washington, DC, Cardiovascular Revascularization Therapy 2002, "Radiation and delayed healing after vascular brachytherapy," A Farb.
18. February 2002: Washington, DC, Cardiovascular Revascularization Therapy (CRT) 2002 Scientific Sessions, "Pathology: diabetic restenosis and vascular disease," R Virmani.
19. February 2002: Washington, DC, Cardiovascular Revascularization Therapy (CRT) 2002 Scientific Sessions, "The therapeutic window between benefit and disaster," R Virmani.
20. February 2002: Kansai (Kurashiki), Japan, 11th Kurashiki PTCA Live Demonstration Course, "Presentation on DES with main focus on Guidant's DES systems, ongoing/future clinical trials, their outcomes and evaluations to date," R Virmani.
21. March 2002: Atlanta, Ga, American College of Cardiology, 51st Annual Scientific Session, "The definition of vulnerable plaque: the 1st AEHA guideline (AEHA = Association for the Eradication of Heart Attack)," R Virmani.
22. March 2002: Atlanta, Ga, American College of Cardiology, 51st Annual Scientific Session, Enter the Drug-Eluting Stent Revolution: A Critical Appraisal Symposium, "Comparative pathobiology of drug-eluting stents: insights into effectiveness and toxicity from the animal lab," A Farb.
23. March 2002: Atlanta, Ga, American College of Cardiology, 51st Annual Scientific Session, "Mechanisms of restenosis: use of radiation and drug-eluting stent," R Virmani.
24. March 2002: Atlanta, Ga, American College of Cardiology, 51st Annual Scientific Session,

- "Histopathology of the vulnerable plaque," R Virmani.
25. April 2002: Marseille, France, Endocoronary Biomechanics and Restenosis Symposium, "Definition and mechanisms of vulnerable plaque," R Virmani.
 26. April 2002: Bethesda, Md, Uniformed Services University of the Health Sciences, "Update and review of anatomic pathology," A Burke.
 27. April 2002: Baltimore, Md, Cardiology Grand Rounds, Johns Hopkins Hospital, "Pathology of drug-eluting stents: insights from preclinical studies," A Farb.
 28. April 2002: Seoul, Korea, 7th Angioplasty Summit Course, "How does radiation alter the healing of coronary arteries?" R Virmani.
 29. April 2002: Seoul, Korea, 7th Angioplasty Summit Course, "Pathology in drug-eluting stent studies," R Virmani.
 30. April 2002: Seoul, Korea, 7th Angioplasty Summit Course, "Basic principles of response to various modes of injury," R Virmani.
 31. May 2002: Montreal, Canada, 5th Congress of the International Society for the Study of Fatty Acids and Lipids, "Effect of total cholesterol and HDL on the atherosclerotic plaque in patients dying from sudden coronary death – the role of apoptosis," R Virmani.
 32. May 2002: Seattle, Wash, Society for Cardiac Angioplasty and Interventions Meeting, "Biology of intravascular healing," R Virmani.
 33. May 2002: Seattle, Wash, Society for Cardiac Angioplasty and Interventions Meeting, "Lessons from vascular biology," R Virmani.
 34. May 2002: Paris, France, Paris Course on Revascularization (EURO PCR), "Mother nature will not let you get away with the eluting stent . . . without aftermath," R Virmani.
 35. May 2002: Paris, France, Paris Course on Revascularization (EURO PCR), "Early pre-clinical results with everolimus-eluting stent," R Virmani.
 36. May 2002: Paris, France, Paris Course on Revascularization (EURO PCR), "Faces of the vulnerable plaque," R Virmani.
 37. May 2002: Paris, France, Paris Course on Revascularization (EURO PCR), "Pre-clinical perspectives on Medtronic AVE drug-eluting stents," R Virmani.
 38. May 2002: Paris, France, Paris Course on Revascularization (EURO PCR), "FAQs to experts session – restenosis," R Virmani.
 39. May 2002: Washington, DC, Current and Emerging Endovascular Therapies, "Carotid plaque morphology and its relation to embolization: correlation to filter recovered particles," R Virmani.
 40. June 2002: Washington, DC, Current and Emerging Endovascular Therapies, "The histopathology of in-stent radiation," R Virmani.
 41. June 2002: Norfolk, Va, Cardiac Grand Rounds at Sentara Norfolk General Hospital, "Pathology of restenosis and drug-eluting stents," R Virmani.
 42. July 2002: Jackson Hole, Wyo, NeuroConferences – Global Endovascular Complications Seminar, R Virmani.
 43. July 2002: McLean, Va, Challenges in Designing Trials of Drug-Eluting Stents, "The good, the bad, and the ugly: the pathology view of drug-eluting stents," R Virmani.
 44. September 2002: Washington, DC, Walter Reed Army Medical Center, "Cardiac pathology – myocarditis and valvar heart disease," A Burke.
 45. September 2002: Washington, DC, Walter Reed Army Medical Center, "Cardiac pathology – myocarditis and cardiomyopathy," A Burke.
 46. September 2002: Washington, DC, Walter Reed Army Medical Center, "Cardiac pathology – atherosclerosis," A Burke.
 47. September 2002: Scottsdale, Ariz, Surfaces in Biomaterials Meeting 2002, "Drug-eluting stents: leftover ingredients and heartburn—local drug pathology and late effects in experimental animals," A Farb.
 48. September 2002: Niagara Falls, NY, International Symposium on Insulin Action, Insulin Resistance, Inflammation and Atherosclerosis, "Evolution of atherosclerosis," R Virmani.
 49. September 2002: Chicago, Ill, American College of Cardiovascular Board Review, "Pathology," R Virmani.
 50. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, "The pathology of pulmonary veins: role of atrial fibrillation," R Virmani.
 51. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium,

- Discussant, Plenary Sessions, Live Case Transmissions, R Virmani.
52. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, Discussant, FDA Town Hall Meeting: Drug-Eluting Stents, R Virmani.
 53. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, "Drug-eluting stent euphoria: a revolutionary step or misguided enthusiasm? Drug-eluting stents are another premature, exaggerated therapy with significant potential for grave pathobiological consequences!" R Virmani.
 54. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, "Coated stents: promise and limitations: a view from inside the vessel," R Virmani.
 55. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, "What is vulnerable plaque? Pathologic correlations," R Virmani.
 56. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, "Animal models and insights: are animal models relevant? Relationship between pre-clinical and clinical data," R Virmani.
 57. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, "Basic science and desirable components of drug-eluting stents," R Virmani.
 58. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, "Everolimus I: structure, mechanism, and pre-clinical data (1 and 3 mo. animals)," R Virmani.
 59. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics Symposium, "Critical analysis of actinomycin-D pre-clinical data. Was ACTION foreseeable?" R Virmani.
 60. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics, "Discussant: live case transmission," A Farb.
 61. September 2002: Washington, DC, Transcatheter Cardiovascular Therapeutics, "Insights from atherectomy and human necropsy specimens into toxicity from drug-eluting stents," A Farb.
 62. October 2002: Baltimore, Md, NHLBI Workshop on Women and Ischemia Syndrome Evaluation (WISE): Diagnosis and Pathophysiology of Ischemic Heart Disease, "Pathology of acute ischemic syndrome," R Virmani.
 63. October 2002: San Francisco, Calif, 4th Annual International Symposium on Advances in Understanding Aortic Diseases, "Vasa vasorum in aortic diseases," A Burke.
 64. October 2002: Amsterdam, The Netherlands, 24th International Congress of the International Academy of Pathology, "Coronary and aortic vasculitis," R Virmani.
 65. October 2002: Amsterdam, The Netherlands, 24th International Congress of the International Academy of Pathology, "Characteristics of the unstable plaque," R Virmani.
 66. October 2002: Amsterdam, The Netherlands, 24th International Congress of the International Academy of Pathology, "Isolated v. localized vasculitis," A Burke.
 67. October 2002: Amsterdam, The Netherlands, 24th International Congress of the International Academy of Pathology, Course Director, "Pathology of vasculitic syndromes," A Burke.
 68. October 2002: New Orleans, La, American College of Rheumatology 66th ACR Annual Scientific Meeting, Slide Seminar, "Vasculitis syndromes II," A Burke.
 69. October 2002: Verona, Italy, 23rd National Congress of the Italian Society of Invasive Cardiology (GISE), Setting Priorities for Drug-Eluting Stents, "Making sure they are not harmful," R Virmani.
 70. October 2002: Kobe, Japan, Complex Catheter Therapeutics (CCT) 2002, "Factors influencing in-stent restenosis in animals and man," R Virmani.
 71. November 2002: Kobe, Japan, Complex Catheter Therapeutics (CCT) 2002, "Drug-eluting stents: a pathohistological perspective," R Virmani.
 72. November 2002: Kobe, Japan, Complex Catheter Therapeutics (CCT) 2002, "Drug-eluting stents: are the clinical and animal studies compatible?" R Virmani.
 73. November 2002: Chicago, Ill, American Heart Association Scientific Session, "Different types of vulnerable plaques," R Virmani.
 74. November 2002: Chicago, Ill, American Heart Association Scientific Session, "Pre-clinical results and next steps," R Virmani.
 75. November 2002: Chicago, Ill, American Heart Association Scientific Session, Moderator, "Biochemical markers of plaque vulnerability," R Virmani.

76. November 2002: Chicago, Ill, American Heart Association Scientific Session, Moderator, "Factors influencing restenosis," A Farb.
77. November 2002: New York, NY, 29th Global Vascular and Endovascular Issues, Techniques and Horizons (VEITH) Symposium, "Different types of vulnerable plaques," R Virmani.
78. November 2002: Washington, DC, Georgetown University, "Myocarditis and cardiomyopathy," A Burke.
79. November 2002: Georgetown University, "Vasculitis and aneurysms," A Burke.
80. December 2002: Portland, Ore, Oregon Medical Laser Center, US Army Tissue Replacement and Repair Annual Review Meeting, "Albumin laser repair, histologic results," A Burke.
81. December 2002: Portland, Ore, Oregon Medical Laser Center, US Army Tissue Replacement and Repair Annual Review Meeting, "Urethra repair, histologic results," A Burke.
82. December 2002: Frankfurt, Germany, 13th International Course on Interventional Cardiology, "How to define an unstable coronary lesion," R Virmani.

PUBLICATIONS

Journal Articles

1. Burke AP, Kolodgie FD, Farb A, Weber D, Virmani R. Morphological predictors of arterial remodeling in coronary atherosclerosis. *Circ.* 2002;105:297-303.
2. Virmani R, Farb A, Kolodgie FD. Histopathologic alterations after endovascular radiation and antiproliferative stents: similarities and differences. *Herz.* 2002;27:1-6.
3. Burke AP, Farb A, Pestaner J, Malcom GT, Zieske A, Kutys R, Smialek J, Virmani R. Traditional risk factors and the incidence of sudden coronary death with and without coronary thrombosis in blacks. *Circ.* 2002;105:419-424.
4. Burke AP, Farb AF, Kolodgie FD, Narula J, Virmani R. Atherosclerotic plaque morphology and coronary thrombi. *J Nucl Cardiol.* 2002;9:95-103.
5. Kolodgie FD, Narula J, Haider N, Virmani R. Apoptosis in atherosclerosis. Does it contribute to plaque instability? *Cardiol Clinics.* 2001;19:127-139.
6. Virmani R, Burke AP, Farb A, Kolodgie FD. Pathology of the unstable plaque. *Prog Cardiovasc Dis.* 2002;44:349-356.
7. Burke AP, Tracy RP, Kolodgie F, Malcom GT, Zieske A, Kutys R, Pestaner J, Smialek J, Virmani R. Elevated C-reactive protein values and atherosclerosis in sudden coronary death. Association with different pathologies. *Circ.* 2002;105:2019-2023.
8. Farb A, Weber DK, Kolodgie FD, Burke AP, Virmani R. Morphological predictors of restenosis after coronary stenting in humans. *Circ.* 2002;105:2974-2980.
9. Virmani R, Burke AP, Farb A, Kolodgie FD. Vulnerable plaque: the pathology of unstable coronary lesions. *J Interv Cardiol.* 2002;15:439-446.
10. Kolodgie FD, Burke AP, Farb A, Weber DK, Kutys R, Wight TN, Virmani R. Differential accumulation of proteoglycans and hyaluronan in culprit lesions. Insights into plaque erosion. *Arterioscler Thromb Vasc Biol.* 2002;22:1642-1648.
11. Farb A, John M, Acampado E, Kolodgie FD, Prescott MF, Virmani R. Oral everolimus inhibits in-stent neointimal growth. *Circ.* 2002;106:2379-2384.
12. Burke AP, Fonseca V, Kolodgie F, Zieske A, Fink L, Virmani R. Increased serum homocysteine and sudden death resulting from coronary atherosclerosis with fibrous plaques. *Arterioscler Thromb Vasc Biol.* 2002;22:1936-1941.
13. Kolodgie FD, John M, Khurana C, Farb A, Wilson PS, Acampado E, Desai N, Soon-Shiong P, Virmani R. Sustained reduction of in-stent neointimal growth with the use of a novel systemic nanoparticle paclitaxel. *Circ.* 2002;106:1195-1198.
14. Finn AV, Gold HK, Tang A, Weber DK, Wight TN, Clermont A, Virmani R, Kolodgie FD. A novel rat model of carotid artery stenting for the understanding of restenosis in metabolic diseases. *J Vasc Res.* 2002;39:414-425.
15. Virmani R, Liistro F, Stankovic G, Di Mario C, Montorfano M, Farb A, Kolodgie FD, Colombo A. Mechanism of late in-stent restenosis after implantation of a Paclitaxel derivate-eluting polymer stent system in humans. *Circ.* 2002;106:2649-2651.
16. Wolf DA, Burke AP, Patterson KV, Virmani R. Sudden death following rupture of a right ventricular aneurysm 9 months after ablation therapy of the right ventricular outflow tract. *Pacing Clin Electrophysiol.* 2002;25:1135-1137.
17. Burke AP, Gatto-Weis C, Griego JE, Ellington KS, Virmani R. Adult cellular rhabdomyoma

- of the heart: a report of 3 cases. *Hum Pathol.* 2002;33:1092-1097.
18. Grebenc ML, Rosado-de-Christensen ML, Green CE, Burke AP, Galvin JR. Cardiac myxoma: imaging features in 83 patients. *Radiographies.* 2002;22:673-689.
 19. Virmani R, Farb A, Kolodgie FD. Stent sense. *ADVANCE for Imaging and Oncology Administrators.* 2002;149-150.
 20. Virmani R. Self-expanding stent deployment strategies may be the key to reducing in-stent restenosis. *Cath Cardiovasc Interven.* 2002;56:487-488.
 21. Finn AV, Tang A, Shroff SS, Clermont A, Gold HK, Virmani R, Kolodgie FD. Stent deployment in the rat carotid artery: a model to study the influence of genetic modifiers on in-stent restenosis. *J Vasc Res.* 2002;39:414-425.
 22. Kim AY, Walinsky PL, Kolodgie FD, Bian C, Sperry JL, Deming CB, Peck EA, Shake JG, Ang GB, Esmon CT, Virmani R, Stuart S, Rade JJ. Loss of thrombomodulin expression enhances local thrombin generation in autologous vein grafts. *Circ Res.* 2002;90:205-212.
 23. Schmitt JM, Peterson CL, Mont E, Virmani R. Imaging and characterization of coronary lesions with optical coherence tomography. *Proc IEEE Sympo Biomed Imag.* 2002;106-109.

Abstracts

1. Farb A, Kolodgie FD, Hwang JY, Burke AP, Wight TN, Virmani. CD44 and persistence of versican, type III collagen, and hypercellularity of the in-stent neointima within human coronary arteries. *Circ.* 2002;106:II-392.
2. Burke AP, Farb A, Kutys R, Zieske A, Weber DK, Virmani R. Atherosclerotic coronary plaques in African Americans are less likely to calcify than coronary plaques in Caucasian Americans. *Circ.* 2002;106:II-481.
3. Farb A, John MC, Acampado E, Kolodgie FD, Weber DK, Prescott MF, Virmani R. Oral administration of everolimus (RAD) reduces in-stent restenosis in the NZW rabbit. *Circ.* 2002;106:II-593.
4. Burke AP, Kolodgie F, Weber D, Fowler D, Zieske A, Virmani R. Macrophage infiltration and expression of advanced glycation end-product receptor (RAGE) are increased in coronary atherosclerotic plaques of diabetics. *Circ.* 2002;106:II-562.
5. Schneiderman J, Wilensky R, Weiss A, Smouha E, Muchnik L, Chen-Zion M, Golan E, Virmani R. Detection of vulnerable plaques in ex-vivo human aortas with a novel intravascular magnetic resonance catheter. *Circ.* 2002;106:II-657.
6. Burke AP, Kolodgie FD, Farb A, Weber D, Virmani R. Role of circulating myeloperoxidase positive monocytes and neutrophils in occlusive coronary thrombi. *J Am Coll Cardiol.* 2002;39:256A.
7. Burke AP, Farb A, Kutys R, Virmani R. Smoking is independently associated with cardiomegaly in coronary and non-coronary deaths in men. *J Am Coll Cardiol.* 2002;39:144A.
8. John M, Khurana C, Kolodgie FD, Acampado E, Desai N, Soon-Shiong P, Farb A, Virmani R. A novel preparation of systemic paclitaxel reduces in-stent restenosis in the rabbit. *J Am Coll Cardiol.* 2002;39:5A.
9. Farb A, Pessanha BS, Burke AP, Virmani R. Causes of death in patients with in-stent restenosis. *J Am Coll Cardiol.* 2002;39:25A.
10. Pessanha BS, Farb A, Weber DK, Burke AP, Virmani R. Accelerated atherosclerotic change in saphenous vein bypass graft restenosis: importance of the lipid core. *J Am Coll Cardiol.* 2002;39:33A.
11. Gallo R, Chauvet P, Urick M, Burke A, Virmani R. Endocardial cryotherapy induces marked arteriogenesis in normal porcine myocardium. *J Am Coll Cardiol.* 2002;39:278A.
12. Rubenstein MH, Garabedian HD, Guerrero L, Sullivan SM, Thomas A, Virmani R, Hollenbach S, Leinbach RC, Gold HK. Coronary artery passivation: a mechanism for the prevention of recurrent ischemia after thrombolysis. *J Am Coll Cardiol.* 2002;39:280A.
13. Kim AY, Baughman KL, Walinsky PL, Kolodgie FD, Bain CE, Sperry J, Deming C, Peck E, Shake J, Ang G, Esmon C, Virmani R, Rade J. Loss of thrombomodulin expression impairs vein graft thromboresistance. *J Am Coll Cardiol.* 2002;39:451A.

Book Chapters

1. Burke A, Virmani R. Histopathological basis of cardiomyopathic disorders. In: Narula J, Virmani R, Ballester M, Carrio I, Westaby S, Frazier O, Willerson JT, eds. *Heart Failure, Pathogenesis and Treatment.* London, England: Martin Dunitz Ltd; 2002:69-103.

2. Virmani R, Burke AP. Infective diseases of the myocardium. In: Narula J, Virmani R, Ballester M, Carrio I, Westaby S, Frazier O, Willerson JT, eds. *Heart Failure Pathogenesis and Treatment*. London, England: Martin Dunitz Ltd; 2002:403-422.
3. Burke A, Virmani R. Cardiac involvement in systemic disorders. In: Narula J, Virmani R, Ballester M, Carrio I, Westaby S, Frazier O, Willerson JT, eds. *Heart Failure Pathogenesis and Treatment*. London, England: Martin Dunitz Ltd; 2002:471-496.
4. Virmani R, Farb A. Effects of external beam radiation on the human heart and great vessels. In: Waksman R, ed. *Vascular Brachytherapy*. 3rd ed. Armonk, NY: Futura Publishing Company; 2002:181-193.
5. Virmani R, Burke A. Heart. In: Alison M, ed. *The Cancer Handbook*. Vol 1. London, England: Nature Publishing Group; 2002:777-787.
6. Virmani R, Kolodgie FD, Burke AP, Farb A, Wight TN. Structural and Cellular Components of the Vulnerable Plaque: Extracellular Matrix. In: Fuster V, ed. *Assessing and Modifying the Vulnerable Atherosclerotic Plaque*. Armonk, NY: Futura Publishing Company; 2002:241-250.
7. Virmani R, Burke AB, Farb A, Kolodgie FD. Clinical and pathological correlates. In: Brown DL, ed. *Cardiovascular Plaque Rupture*. New York, NY: Marcel Dekker; 2002:51-61.
8. Virmani R, Burke AB, Farb A, Willerson JT. Pathophysiology, clinical recognition, and diagnosis of coronary artery disease. In: Wilansky S, Willerson JT, eds. *Heart Disease in Women*. New York, NY: Churchill Livingstone; 2002:67-89.

Books Edited

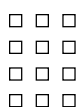
Narula J, Virmani R, Ballester M, Carrio I, Westaby S, Frazier O, Willerson JT, eds. *Heart Failure, Pathogenesis and Treatment*. London, England: Martin Dunitz Ltd; 2002.

GOALS

1. Maintain excellence in consultation by making sure that reports are timely, accurate, and have representative photomicrographs where necessary.
2. Make progress in our understanding of sudden cardiac death by collaborating with military and civilian researchers.
3. Maintain and improve the current level of funding for research projects, and expand funding for future projects.
4. Maintain our excellence in the field of atherosclerosis by innovative research ideas and publications.
5. Maintain our expertise in the area of drug-eluting stents, and serve as reference laboratory for the FDA and other federal agencies.
6. Maintain the volume of stents being cut in our laboratory, and maintain our GLP laboratory status.



Dennis K. Heffner, MD
Chair
Date of Appointment—1 September 1984



DEPARTMENT OF ENDOCRINE AND OTORHINOLARYNGIC/HEAD-NECK PATHOLOGY

MISSION

The Department of Endocrine and Otorhinolaryngic/Head-Neck Pathology provides consultation, education, and research in the pathology of the upper respiratory tract, ear, and related head and neck areas, and of the pancreas, adrenal, thyroid, and parathyroid glands.

STAFF

Medical:

Clara S. Heffess, MD, Chief, Division of Endocrine Pathology
Lester D. R. Thompson, MD, Chief, Division of Otorhinolaryngic/Head-Neck Pathology
Jacqueline A. Wieneke, MD

Administrative:

(D) Harold Lindmark, Administrative Assistant
(A) Carlos Mena, Administrative Assistant

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	435
Army (150)	
Navy (116)	
Air Force (169)	
Federal	
VA (337)	345
USPHS (1)	
OFA (7)	
Civilian	1,827
Interdepartmental	250
Total	2,857

The department consults on difficult or controversial histopathologic diagnostic cases received from US military medical commands or facilities, VA medical centers, US Public Health centers, and nongovernmental civilian hospitals in the United States and abroad. The vast majority of cases are active surgical pathology cases with patient treatment decisions awaiting

the consultative diagnostic evaluation. Our staff deals with a broad spectrum of pathologic conditions, consisting of a multitude of disease entities affecting the upper respiratory tract, ear, and adjacent or related anatomic areas of the head and neck and the pancreas, adrenal, thyroid, and parathyroid glands.

Evaluation of the above cases required examination of 12,500 slides in the ENT Division and 33,000 slides in the Endocrine Division (total 45,500 slides, or 186 slides per day). These evaluations required the following additional types of procedures and analyses:

H&E stain: (60% Endo, 20% ENT) = $.6 \times 1400$, $.3 \times 1000 = 1140$

— Special stains: 50

— Immunohistochemical stains: (30% of cases x average per case) = $.3 \times 2400 \times 5 = 36,000$

— Electron microscopy: 20 cases

— Molecular biology study: 20 cases

Impact: Approximately 32% of the consultation cases resulted in changes in diagnosis, most of which had a significant and sometimes crucial effect on patient treatment decisions. The quality and impact of our diagnostic consultation is seen most clearly in those rare and difficult cases where our diagnostic experience and expertise could not have been matched anywhere else in the world.

Deployments: LDR Thompson, general pathologist, Naval Reserve.

EDUCATION

Presentations and Seminars: Department staff made 18 extramural presentations, totaling 1,910 man-hours of educational product. Dates and titles of presentations at professional seminars and meetings are listed at the end of this report.

Courses: A 4-week Otolaryngic Basic Science Course was presented in March 2002, and attended by 13 military and 10 civilian surgeons. Approximately one fourth of the course time was composed of pathology instruction provided by department staff, totalling 920 man-hours of instruction.

Trainees: The department had 8 civilian trainees and one foreign trainee for one month each, representing 184 trainee-days.

Educational Aids: We produced 12 monthly Web-training sites for ENT and Endocrine Pathology.

RESEARCH

Publications: Department staff published 17 peer-reviewed articles in professional journals in 2002. Complete data are provided at the end of this report.

Projects: The department maintained 25 research projects in 2002, as listed below:

1. Olfactory esthesioneuroblastoma: a proposed grading system
2. Synovial sarcomas of the head and neck
3. Nodular fasciitis of the external ear area
4. Immunohistochemistry of sinonasal teratocarcinosarcomas
5. Carcinomas of the oral cavity, larynx, and nose in children
6. Spindle cell (sarcomatoid) carcinoma of the larynx
7. Primary thyroid malignant lymphomas
8. Anaplastic carcinomas of the pancreas
9. K-ras oncogene mutations in the diagnosis of adenocarcinoma of the pancreas
10. Intraductal papillary-mucinous neoplasms of the pancreas
11. Carcinomas metastatic to the temporal bone
12. Malignant pheochromocytomas of the adrenal gland
13. Head and neck chondrosarcomas in pediatric patients
14. Head and neck osteosarcomas in pediatric patients
15. Metastatic renal cell carcinoma to the pancreas or thyroid gland
16. Myoepithelial carcinomas of the sinonasal tract
17. Kaposi's sarcoma of the salivary gland
18. Clear cell carcinomas of the salivary gland
19. Myxomatous tumors of the head and neck

20. Malakoplakia of the head and neck
21. Respiratory epithelial carcinomas of the head and neck
22. Giant cell tumors of the larynx
23. Primary angiosarcomas of the larynx
24. Adrenal neoplasms (comprehensive)
25. Spindle cell lesions of the ear

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Dr. Andrew Flood, NIH, epidemiology
2. Dr. Kurt Kodroff, VA, Wilmington, Del

Civilian:

1. Dr. Douglas Gnepp, Rhode Island Hospital
2. Dr. Peter Buetow, Medical College of Virginia
3. Dr. Yolanda Oertel, Washington Hospital Center, Washington, DC
4. Dr. David Klimstra, Memorial-Sloan Kettering Cancer Center, NY
5. Dr. Bruce Wenig, Beth Israel Hospital, NY
6. Dr. Jeffrey Newhouse, Columbia-Presbyterian Medical Center, NY

International:

Dr. Juan Rosai, Italy

Interdepartmental: Our staff participated in 15 combined educational histopathology slide conferences with the Department of Oral and Maxillofacial Pathology.

Committees:

Editorial Boards:

DK Heffner:

1. *Ear, Nose, Throat Journal*
2. *European Archives of Otorhinolaryngology*
3. *Annals of Diagnostic Pathology*

LDR Thompson:

Annals of Diagnostic Pathology (section editor)

Manuscripts Reviewed: Department staff reviewed manuscripts for the following professional journals:

1. *Cancer*
2. *Human Pathology*
3. *Acta Cytologica*
4. *Archives of Medical Research*
5. *Pathology Research and Practice*

Faculty Appointments: Georgetown University Medical Center, Adjunct Professor, Department of Otolaryngology/Head and Neck Surgery, DK Heffner.

Public Affairs Reports: Heffner DK. Rhabdomyosarcoma: why pathologic subtyping is important. *Oncology Times*. December 2002:4-10.

PRESENTATIONS

1. March 2002: Chicago, Ill, US and Canadian Academy of Pathology, Platform Presentation, "Adrenal cortical neoplasms in pediatric patients," JA Wieneke, LDR Thompson, CS Heffess.
2. March 2002: Chicago, Ill, US and Canadian Academy of Pathology, Poster Presentation, "Sinonasal tract melanomas: a clinicopathologic and immunophenotypic analysis of 115 cases," LDR Thompson, JA Wieneke, M Miettinen.
3. May 2002: Boca Raton, Fla, Triological Society, 105th Annual Meeting, Poster Presentation, "Intratracheal ectopic thyroid tissue: a case report and review of the literature," MC Byrd, LDR Thompson, JA Wieneke.
4. December 2002: Puebla, Mexico, Decimo Curso de Actualizacion y Diagnostico en

Patologia Quirurgica en Espanol e Ingles (sponsored by AFIP), Faculty Lecture, "Selected lesions of the thyroid and adrenal glands," JA Wieneke.

5. June/July 2002: Washington, DC, AFIP Staff Conferences, LDR Thompson.
6. July/October 2002: Washington, DC, George Washington University Grand Rounds, "Benign versus malignant endocrine organ pathology," LDR Thompson.

PUBLICATIONS

Journal Articles

1. Dimitrova K, DeGroot KW, Suyderhoud J, Pirovic E, Munro T, Wieneke JA, Myers A, Kim Y. 17 beta estradiol preserves endothelial cell viability in an in-vitro model of homocysteine-induced oxidative stress. *J Cardiovasc Pharmacol.* 2002;39:347-353.
2. Dimitrova K, DeGroot KW, Myers A, Suyderhoud J, Pirovic E, Farhat M, Munro T, Wieneke JA, Kim Y. Estradiol and homocysteine-induced endothelial injury in vivo. *Carciovasc Res.* 2002;53:589-596.
3. Heffner DK. Let's make grading of squamous cell carcinoma more meaningful to clinicians (via "Ed's Insight"). *Ann Diagn Pathol.* 2002;6:399-404.
4. Heffner DK. Wegener's granulomatosis is not a granulomatous disease. *Ann Diagn Pathol.* 2002;6:329-333.
5. Thompson LDR, Wieneke JA, Miettinen M, Heffner DK. Spindle cell (sarcomatoid) carcinomas of the larynx: a clinicopathologic study of 187 cases. *Am J Surg Pathol.* 2002;26:153-170.
6. Fung EK, Neuhauser TS, Thompson LDR. Hodgkin-like transformation of a marginal zone B-cell lymphoma of the larynx. *Ann Diagn Pathol.* 2002;6:61-66.
7. Heffess CS, Thompson LDR. Minimally invasive follicular thyroid carcinoma. *Endo Pathol.* 2002;12:417-422.
8. Thompson LDR. Pheochromocytoma of the Adrenal gland Scaled Score (PASS) to separate benign from malignant neoplasms: a clinicopathologic and immunophenotypic study of 100 cases. *Am J Surg Pathol.* 2002;26:551-566.
9. Torske K, Thompson LDR. Middle ear adenoma vs. carcinoid tumor: a review of the literature and a unifying concept of 48 cases of neuroendocrine adenoma of the middle ear (NAME). *Mod Pathol.* 2002;15:543-555.
10. Garcia RE, Thompson LDR, Gannon FH. Dedifferentiated chondrosarcomas of the larynx: a report of two cases and review of the literature. *Laryngoscope.* 2002;112:1015-1018.
11. Thompson LD. ENT pathology clinic: rhinoscleroma. *Ear Nose Throat J.* 2002;81:506.
12. Thompson LDR, Gannon FH. Chondrosarcoma of the larynx: a clinicopathologic study of 111 cases. *Am J Surg Pathol.* 2002;26:836-851.
13. Thompson LD, Heffess CS. ENT pathology clinic: subacute (de Quervain's) thyroiditis. *Ear Nose Throat J.* 2002;81:623.
14. Heffess CS, Wenig BM, Thompson LD. Metastatic renal cell carcinoma to the thyroid gland: a clinicopathologic study of 36 cases. *Cancer.* 2002;95:1869-1878.
15. Thompson LDR. ENT pathology clinic: relapsing polychondritis. *Ear Nose Throat J.* 2002;81:705.
16. Thompson LDR. ENT pathology clinic: hemangioma of the parotid. *Ear Nose Throat J.* 2002;81:769.
17. Thompson LDR. ENT pathology clinic: nodular fasciitis. *Ear Nose Throat J.* 2002;81:801.



Kamal G. Ishak, MD, PhD, FASCP, FRCPath (Hon), SES
Chair
Date of Appointment — 10 March 1965



DEPARTMENT OF HEPATIC AND GASTROINTESTINAL PATHOLOGY

MISSION

The Department of Hepatic and Gastrointestinal Pathology provides expertise in consultation, supports the educational objectives of the Armed Forces Institute of Pathology, both intramurally and extramurally, and conducts research in diseases of the liver and gastrointestinal tract.

ORGANIZATION

The department is organized into 2 divisions and the Office of the Chair.

1. Division of Hepatic Pathology – Zachary D. Goodman, MD, PhD, Chief
2. Division of Gastrointestinal Pathology – Leslie H. Sobin, MD, SES, Chief

STAFF

Medical:

Kamal G. Ishak, MD, PhD, Chair

Administrative:

Fanny X. Revelo, Administrative Officer, ARP

DIAGNOSTIC CONSULTATION

The 2 divisions consulted on 6,269 cases (5,949 extramural; 320 intramural). See division reports for further details.

National Impact:

Division of Hepatic Pathology

Over the past several decades, the division has collaborated in numerous studies with civilian universities and other federal agencies, including the NIH, the FDA, and several military and VA medical centers. The Histology Activity Index, created by Dr. Ishak and others, is widely used for evaluating histologic responses in research on chronic hepatitis. Members of the division have played and continue to play a major role in pivotal clinical trials leading to FDA approval of new medications for the treatment of chronic viral hepatitis C and B. The division produced landmark studies of non-neoplastic liver diseases, including various forms of chronic hepatitis, primary biliary cirrhosis, alcoholic liver disease, nonalcoholic steatohepatitis, drug-induced liver disease, and exotic and other infectious diseases of the liver. Over the decades the division has published authoritative clinicopathologic studies of large series of liver tumors in children and adults.

The division has educated clinicians and pathologists through its weekly Thursday Conference in the Metropolitan Washington Area, and its annual Hepatic Pathology Course (now in its 22nd year). Drs. Ishak and Goodman have directed 3 postgraduate courses at the annual meeting of the American Association for the Study of Liver Diseases, with members in the subspecialties of hepatology, gastroenterology, and pathology, both in the United States and abroad.

Division of Gastrointestinal Pathology

Collaborative studies with other federal agencies have increased over the past several years:

1. National Cancer Institute: Cancer Epidemiology and Tumor Classification
2. Centers for Disease Control and Prevention: Assessing Morphologic Changes of Vaccine Reactions
3. Food and Drug Administration: Assessing Morphologic Changes of Drug Reactions
4. Naval Medical Research Institute: Pathogenesis of *Campylobacter jejuni* Infections in Humans
5. Mayo Clinic: Atlas Correlating Endoscopic and Histologic Features of Gastrointestinal Diseases
6. Albany VA Medical Center: Diagnostic Accuracy of Gastrointestinal Lesions by Telepathology

International Impact:

Division of Hepatic Pathology

Members of the division are internationally recognized authorities in the pathology of liver diseases, and have been called upon by the International Academy of Pathology and other societies and organizations to present in France, Japan, Austria, Hungary, The Netherlands, United Kingdom, Australia, and Egypt. The department chair has coauthored several sections of the IARC monograph on classification of tumors of the gastrointestinal tract and liver, and 3 chapters of the 4th edition of the authoritative textbook, *Pathology of the Liver* (Churchill Livingstone), of which he is also one of the editors. The division has produced the AFIP Fascicle (Third Series) *Tumors of the Liver and Intrahepatic Bile Ducts* and is currently writing a nontumor fascicle on diseases of the liver.

Division of Gastrointestinal Pathology

Through the WHO Collaborating Center for International Histological Classification of Tumors, a number of important projects are underway:

1. Consultative work with the WHO to revise the International Classification of Diseases for Oncology, the standard coding system for tumors and the basis for the SNOMED tumor morphology code.
2. Consultative work with the International Agency for Research on Cancer to initiate a new tumor classification series relating histological types to genetic and molecular characteristics.
3. Collaboration with the International Union Against Cancer on tumor classification (TNM system) and staging, and the interaction of staging with nonanatomic prognostic factors.

EDUCATION

Presentations and Seminars: Department staff gave 91 lectures at numerous venues during 2002. A full list of dates and titles is included in each division report.

RESEARCH

Publications: Department staff published 27 journal articles, 14 abstracts, 2 course syllabi, 3 book chapters, and 2 books. See division reports for full details.

Projects:

KG Ishak

1. Focal nodular hyperplasia of the liver. Diagnostic criteria in needle biopsy specimens. A study of 100 cases.
2. Histopathology and x-ray microanalysis of the cystic duct lymph node. A study of 40 cases (in collaboration Department of Environmental Pathology).
3. Histopathologic and immunohistochemical study of embryonal sarcoma of the liver. A study of 30 cases.

OTHER ACCOMPLISHMENTS

KG Ishak

1. Registrar of the Registry of Hepatic and Gastrointestinal Pathology, American Registry of Pathology.
2. Clinical Professor of Pathology, USUHS, Bethesda, Md.
3. Professorial Lecturer, Mt. Sinai School of Medicine, Mt. Sinai University, New York, NY.

Awards:**KG Ishak**

1. 2002 Book Award, Second and Subsequent Edition Books, awarded by the Society of Authors and the Royal Society of Medicine, United Kingdom, for MacSween RNM, Burt AD, Portmann BC, Ishak KG, Scheuer PJ, Anthony PP, eds. *Pathology of the Liver*, 4th ed. Churchill Livingstone, 2002.
2. Highly Commended Certificate, British Medical Book Competition of 2002, British Medical Association, for MacSween RNM, Burt AD, Portmann BC, Ishak KG, Scheuer PJ, Anthony PP, eds. *Pathology of the Liver*, 4th ed. Churchill Livingstone, 2002.

PRESENTATIONS**KG Ishak**

1. May-June 2002: Ravello, Italy, 35th Annual Meeting of the International Liver Group (Gnomes), "Three cases of unusual ductular reactions," "Histopathology of the cystic duct lymph node. An ultrastructural and x-ray microanalytic study of 34 cases."
2. June 2002: Tacoma, Wash, Madigan Army Base, Visiting Professorship, Presentation of 6 lectures on miscellaneous diseases of the liver, and a slide seminar (8 cases) for pathology residents and staff.
3. August 2002: Washington, DC, WRAMC, "Inherited metabolic diseases of the liver."
4. August 2002: Bethesda, Md, AFIP/ARP Diagnostic Surgical Pathology Course, "Medical diseases of the liver: steatohepatitis, chronic hepatitis, and chronic cholestasis."
5. September 2002: Bethesda, Md, 23rd Annual Course Hepatopathology 2002, "Iron overload diseases," "Fibrosis, cirrhosis, and preneoplastic lesions," "Tumors of the liver."
6. October 2002: Washington, DC, AFIP Weekly Staff Conference, "Hepatic fibrosis and cirrhosis."
7. October 2002: Amsterdam, The Netherlands, 24th Meeting of the International Academy of Pathology, "Hepatotoxicity in the domestic environment."
8. October 2002: Ontario, Canada, University of Ottawa, 7th Annual Pathology Course: Selected Topics in Liver and GI Pathology, "Steatosis and steatohepatitis," "Chronic hepatitis," "Chronic cholestasis."
9. October 2002: Shanghai, China, Shanghai Medical College, Fudan University, "Malignant tumors of the liver."
10. October 2002: Shanghai, China, Oriental Hepatobiliary Surgery Hospital, Second Military Medical University, "Benign tumors and pseudotumors of the liver."

PUBLICATIONS**Journal Articles**

1. Makhlouf HR, Ishak KG, Shekar R, Sesterhenn IA, Young DY, Fanburg-Smith JC. Melanoma markers in angiomyolipoma of the liver and kidney: a comparative study. *Arch Pathol Lab Med*. 2002;126:49-55.
2. Makhlouf HR, Ishak KG. Sclerosed hemangioma and sclerosing cavernous hemangioma of the liver: a comparative clinicopathologic and immunohistochemical study with emphasis on the role of mast cells in their histogenesis. *Liver*. 2002;22:70-78.
3. Makhlouf HR, Remotti HE, Ishak KG. Expression of KIT (CD117) in angiomyolipoma. *Am J Surg Pathol*. 2002;26:493-497.
4. Ishak KG. Inherited metabolic diseases of the liver. *Clin Liver Dis*. 2002;6:455-479.
5. Ishak KG. Hepatotoxicity in the domestic environment. *Histopathology*. 2002;41:333-337.

Book Chapter

Goodman ZG, Ishak KG. Hepatic histopathology. In: Schiff ER, Sorrell MF, Maddrey WC, eds. *Diseases of the Liver*. 9th ed. Philadelphia, Pa: Lippincott-Raven; 2002:69-134.



Zachary D. Goodman, MD, PhD
Chief
Date of Appointment—1 January 1991



DIVISION OF HEPATIC PATHOLOGY

MISSION

The Division of Hepatic Pathology provides consultation, research, and education in pathology of the liver, biliary tract, and gallbladder.

STAFF

Medical:

- Zachary D. Goodman, MD, PhD, Chief
- Lionel Rabin, MD, Staff Pathologist
- (D) Linda A. Murakata, CDR, MC, USNR, Staff Pathologist
- (D) Jose Gomez, MD, Callender-Binford Fellow
- (A) Anupamjit K. Mehrotra, MD, Research Associate
- (A) Harris Yfantis, MD, Callender-Binford Fellow

Administrative:

- Fanny X. Revelo, Secretary

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	392
Army (188)	
Navy (79)	
Air Force (125)	
Federal	646
VA (625)	
USPHS (6)	
OFA (15)	
Civilian	1,291
Interdepartmental	100
Total	2,429

The above cases required the following types of procedures and analyses:

- Blocks: 2,614
- H&E stains: 4,305
- Special stains: 7,903
- Unstained sections: 17,834
- Immunostains: 2,680
- Wet tissue: 466
- Electron microscopy: 22

Division staff made no change in the contributor diagnosis in 965 cases, a minor change in diagnosis in 807 cases, and a major change in diagnosis in 236 cases. We received 239 cases with no contributor diagnosis.

Extramural consultations increased 7.4% over 2001, continuing the trend of increasing

consultations over the past 7 years. New forms of therapy for chronic liver disease have resulted in increasing numbers of liver biopsies in hospitals throughout the world, and consequently an ever-increasing number of consultations. In general, most cases pose diagnostic problems for the contributing pathologist, particularly those that deal with medical diseases of the liver, such as chronic hepatitis, chronic cholestatic disorders, and steatohepatitis. Neoplasms represent only about 20% of the consultation material. Many cases are sent at the request of clinicians or patients requesting second opinions. Despite the advent of consultation charges, the number of civilian cases has increased.

EDUCATION

Presentations and Seminars: Division staff presented 24 lectures and seminars at 14 different events, representing approximately 3,700 man-hours of training. A complete list of dates and titles appears at the end of this report.

Departmental Conferences: Division staff conducted daily microscopic pathology conferences for the staff and rotating fellows and residents. The Thursday Clinicopathologic Conference, held for 37 consecutive years, continues to attract hepatologists, gastroenterologists, and pathologists from local federal and civilian institutions. The sessions are attended by an average of 10 clinicians and pathologists.

Courses: Division staff participated in 4 non-AFIP courses, 1 nondepartmental AFIP course, and the 22nd Annual Course in Hepatopathology, which had 120 participants for 360 training days.

Trainees: The division provided training to 16 military and civilian trainees and 2 Callender-Binford Fellows. Trainees attended departmental conferences and reviewed teaching material for a total of 482 training days.

Educational Aids:

1. Quarterly AFIP/VA/Military Histopathology Quality Assessment Program, 1 case prepared (with discussion) and evaluated – LA Murakata.
2. World Wide Web site – LA Murakata, coordinator.

RESEARCH

Publications: Division staff published 11 journal articles and 10 abstracts in 2002. Complete information is listed at the end of this report.

Projects Completed:

1. Lymphomas of the gallbladder.
2. Morphometric analysis of distribution of fibrosis in the liver.

Projects in Progress:

1. The HALT-C trial: a randomized controlled trial to evaluate the safety and efficacy of long-term peginterferon alfa-2a for treatment of chronic hepatitis C in patients who have failed to respond to previous interferon therapy.
2. A phase II, double-blind, randomized, placebo-controlled, multicenter study of the safety and antifibrotic efficacy of interferon gamma-1b in patients with severe liver fibrosis or compensated cirrhosis due to hepatitis C.
3. Hepatic (undifferentiated) embryonal sarcoma: a clinicopathologic and immunohistochemical study.
4. Evaluation of liver histology in clinical trials of Entecavir for treatment of chronic hepatitis B infection.
5. Suspected lymphoma of the liver: a clinicopathologic study.
6. Evaluation of liver histology in a multicenter study of the epidemiology of nonalcoholic fatty liver (Epi-NAFL).

Research Funds Received:

1. The HALT-C trial. New England Research Institute (subcontract from NIH): \$28,289.
2. A phase II, double-blind, randomized, placebo-controlled, multicenter study of the safety and antifibrotic efficacy of interferon gamma-1b in patients with severe liver fibrosis or compensated cirrhosis due to hepatitis C. Intermune, Inc.: \$218,450.
3. Clinical trials of Entecavir for treatment of chronic hepatitis B infection. Bristol-Myers Squibb Pharmaceutical Research Institute: \$89,525.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

NIH, NIDDK Liver Unit and NCI Laboratory of Pathology, the HALT-C trial.

Civilian (and Civilian/Military):

1. New England Research Institutes, University of Washington Laboratory of Virology, University of Massachusetts, Massachusetts General Hospital, St. Louis University, University of Colorado, University of California Irvine, University of Texas Southwestern, University of Southern California, University of Michigan, Medical College of Virginia, Divisions of Gastroenterology/Hepatology and Departments of Pathology: the HALT-C trial.
2. Intermune, Inc. and AFIP Department of Cellular Pathology: A phase II, double-blind, randomized, placebo-controlled, multicenter study of the safety and antifibrotic efficacy of interferon gamma-1b in patients with severe liver fibrosis or compensated cirrhosis due to hepatitis C.
3. University of California Irvine Division of Gastroenterology, University of Southern California Department of Pathology, and AFIP Department of Cellular Pathology: Morphometric analysis of distribution of fibrosis in the liver.
4. Bristol-Myers Squibb Pharmaceutical Research Institute: Entecavir for treatment of chronic hepatitis B infection.
5. Inova Fairfax Hospital: Multicenter study of the epidemiology of nonalcoholic fatty liver (Epi-NAFL).

Interdepartmental:

Department of Hematopathology : 1) Lymphomas of the gallbladder; 2) Suspected lymphomas of the liver.

Committees:

Editorial Boards:

1. *Liver*, ZD Goodman
2. *Annals of Diagnostic Pathology*, ZD Goodman
3. Associate Editor, Center for Scientific Publications, AFIP, LA Murakata

Manuscripts Reviewed: Division staff reviewed 6 manuscripts in 2002 for the following journals:

1. *Human Pathology*
2. *Gastroenterology*
3. *Hepatology*
4. *Liver*

Faculty Appointments:

1. USUHS, Clinical Professor, ZD Goodman
2. Georgetown University, Adjunct Associate Professor, ZD Goodman
3. Temple University, Philadelphia, Pa, Adjunct Professor, L Rabin

PRESENTATIONS

1. February 2002: Chicago, Ill, Hans Popper Hepatopathology Society, US/Canadian Academy of Pathology, "Microvesicular steatosis," ZD Goodman.
2. March 2002: Washington, DC, Georgetown University School of Medicine, Sophomore Pathology Course, "Introduction to liver disease" (4 lectures), ZD Goodman.
3. March 2002: Washington, DC, Georgetown University, Department of Pathology, "Liver transplant pathology," ZD Goodman.
4. April 2002: Bethesda, Md, Anatomic Pathology Review and Update, "Inflammatory diseases of the liver," ZD Goodman.
5. April 2002: Bethesda, Md, Anatomic Pathology Review and Update, "Tumors of the liver," LA Murakata.
6. April 2002: Baltimore, Md, Maryland Society of Pathologists, "Hepatitis," ZD Goodman.
7. May 2002: Dallas, Tex, University of Texas Southwestern Medical Center, Current Issues in Surgical Pathology, "Hepatitis in the 21st century," ZD Goodman.

8. May 2002: Dallas, Tex, University of Texas Southwestern Medical Center, Current Issues in Surgical Pathology, "Metabolic diseases – fat and iron," ZD Goodman.
9. August 2002: Bethesda, Md, Antiviral Drugs Advisory Committee of the Food and Drug Administration Center for Drug Evaluation and Research, "Evaluation of liver histology in clinical trials for chronic viral hepatitis," ZD Goodman.
10. September 2002: Bethesda, Md, Hepatopathology 2002, "Introduction to liver pathology," ZD Goodman.
11. September 2002: Bethesda, Md, Hepatopathology 2002, "Biopsy diagnosis of hepatitis," ZD Goodman.
12. September 2002: Bethesda, Md, Hepatopathology 2002, "Biopsy diagnosis of cholestatic liver disease," ZD Goodman.
13. September 2002: Bethesda, Md, Hepatopathology 2002, "Case presentations," L Rabin.
14. September 2002: Bethesda, Md, Hepatopathology 2002, "Case presentations," LA Murakata.
15. September 2002: Bethesda, Md, Hepatopathology 2002, "Drug-induced liver disease," ZD Goodman.
16. September 2002: Boston, Mass, The Shields Warren Lecture of the New England Society of Pathologists, "Hepatitis in the 21st century," ZD Goodman.
17. September 2002: Boston, Mass, Beth Israel-Deaconess Medical Center Department of Pathology, "Drug hepatotoxicity," ZD Goodman.
18. October 2002: Arlington, Va, Board Review in Gastroenterology, "Liver histopathology," ZD Goodman.
19. November 2002: Boston, Mass, American Association for the Study of Liver Diseases, "Role of pathology in management of fatty liver disease," ZD Goodman.
20. December 2002: Washington, DC, George Washington University Department of Pathology, "Hepatitis in the 21st century," ZD Goodman.
21. December 2002: Baltimore, Md, University of Maryland Department of Pathology, "Hepatitis in the 21st century," ZD Goodman.

PUBLICATIONS

Journal Articles

1. McHutchison JG, Poynard T, Esteban-Mur R, Davis GL, Goodman ZD, Harvey J, Ling MH, Garaud JJ, Albrecht JK, Patel K, Dienstag JL. Hepatic HCV RNA before and after treatment with interferon alone or combined with ribavirin. *Hepatology*. 2002;35:688-693.
2. Poynard T, McHutchison JG, Manns M, Trepo C, Lindsay K, Goodman ZD, Ling MH, Albrecht J. Impact of pegylated interferon alfa-2b and ribavirin on liver fibrosis in patients with chronic hepatitis C. *Gastroenterology*. 2002;122:1303-1313.
3. Pianko S, McHutchison JG, Gordon SC, Heaton S, Goodman ZD, Patel K, Cortese CM, Brunt E, Bacon B, Blatt LM. Hepatic iron concentration does not influence response to therapy with interferon plus ribavirin in chronic HCV infection. *J Interferon Cytokine Res*. 2002;22:483-489.
4. Goodman ZD. Drug hepatotoxicity. *Clin Liver Dis*. 2002;6:381-397.
5. Dural AT, Genta RM, Goodman ZD, Yoffe B. Idiopathic adulthood ductopenia associated with hepatitis C virus. *Dig Dis Sci*. 2002;47:1625-1626.
6. Hoang MP, Murakata LA, Katabi N, Henson DE, Albores-Saavedra J. Invasive papillary carcinomas of the extrahepatic bile ducts: a clinicopathologic and immunohistochemical study of 13 cases. *Mod Pathol*. 2002;15:1251-1258.
7. Zimmerman RL, Fogt F, Burke M, Murakata LA. Assessment of Glut-1 expression in cholangiocarcinoma, benign biliary lesions and hepatocellular carcinoma. *Oncol Rep*. 2002;9:689-692.
8. Zimmerman RL, Das KM, Fogt F, Burke M, Murakata LA. The Das-1 immunostain is useful for discriminating metastatic colon adenocarcinoma from cholangiocarcinoma and hepatocellular carcinoma. *Oncol Rep*. 2002;9:1369-1372.
9. Levy AD, Rohrmann CA Jr, Murakata LA, Loneragan GJ. Caroli's disease: radiologic spectrum with pathologic correlation. *Am J Roentgenol*. 2002;179:1053-1057.
10. Levy AD, Murakata LA, Abbott RM, Rohrmann CA Jr. From the archives of the AFIP. Benign tumors and tumor-like lesions of the gallbladder and extrahepatic bile ducts: radiologic-pathologic correlation. *Radiographics*. 2002;22:387-413.

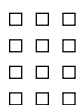
11. Anania FA, Rabin L. Terbinafine hepatotoxicity resulting in chronic biliary ductopenia and portal fibrosis. *Am J Med.* 2002;112:741-742.

Abstracts

1. Marcellin P, Goodman Z, Chang TT, Lim SG, Tong MJ, Sievert W, Shiffman M, Jeffers L, Wulfson M, Fallis R, Fry J, Brosgart CL. Histological improvement in HBeAg-positive chronic hepatitis B patients treated with adefovir dipivoxil. *J Hepatol.* 2002;36:8.
2. Marcellin P, Chang TT, Lim SG, Tong MJ, Sievert W, Shiffman M, Jeffers L, Goodman Z, Chen S, Jain A, James C, Fry J, Brosgart CL. Baseline ALT predicts histologic and serologic response in patients with HBeAg+ chronic hepatitis B treated with adefovir dipivoxil (ADV). *J Hepatol.* 2002;36:122-123.
3. Ong JP, Younoszai A, Elariny H, Goodman Z, Boparai N, Christensen A, Grant G, Chandhoke V, Cooper JN, Younossi ZM. High prevalence of nonalcoholic steatohepatitis (NASH) in morbidly obese patients: discordance between elevated liver enzymes and histology. *Gastroenterology.* 2002;122:A674.
4. Poynard T, Ratziu V, McHutchison J, Manns M, Goodman Z, Zeuzem S, Younossi Z, Albrecht J. The effect of treatment with pegylated interferon alfa-2b and ribavirin on hepatic steatosis in patients infected with hepatitis C virus genotype 3. *Hepatology.* 2002;36:284A.
5. Emile JF, Falissard B, Azoulay D, Callea F, Ferrell LD, Goodman ZD, Hayashi Y, Hsu HC, Hubscher SG, Kojiro M, Ng IO, Paterson AC, Reynes M, Zafrani ES. Multidimensional scaling analysis of the reproducibility of histological classification of primary liver carcinomas reveals the need for better international criteria. *Hepatology.* 2002;36:302A.
6. Lok AS, Everhart JE, Everson G, Wright EC, Sterling R, Ghany M, Goodman Z. Clinical model to predict cirrhosis in patients in the hepatitis C antiviral long-term treatment against cirrhosis (HALT-C) trial. *Hepatology.* 2002;36:315A.
7. Goodman Z, Marcellin P, Chang TT, Lim SG, Tong M, Sievert W, Shiffman M, Jeffers L, Wulfson M, Fallis R, Fry J, Brosgart C. 48 weeks of adefovir dipivoxil (ADV) results in improvement in fibrosis and decreased progression of fibrosis in a double-blind, randomized, placebo-controlled study for the treatment of patients with HBeAg+ chronic hepatitis B. *Hepatology.* 2002;36:373A.
8. Younoszai A, Ong JP, Grant G, Del Giacco L, Gorreta F, Elariny H, Goodman Z, Christensen A, Al-Timimi A, Jamison C, Chandhoke V, Younossi ZM. Genomics of the spectrum of nonalcoholic fatty liver disease. *Hepatology.* 2002;36:381A.
9. Grant G, Ong JP, Gorreta F, Del Giacco L, Elariny H, Younoszai A, Goodman Z, Christensen A, Jamison C, Al-Timimi A, Chandhoke V, Younossi ZM. Genetic epidemiology of nonalcoholic steatohepatitis. *Hepatology.* 2002;36:407A.
10. Ong JP, Elariny H, Younoszai A, Goodman Z, Grant G, Christensen A, Jamison C, Al-Timimi A, Chandhoke V, Cooper J, Bopari N, Younossi ZM. Predictors of nonalcoholic steatohepatitis and fibrosis in nonalcoholic fatty liver disease. *Hepatology.* 2002;36:408A.



Leslie H. Sobin, MD, SES
Chief
Date of Appointment — 1 January 1991



DIVISION OF GASTROINTESTINAL PATHOLOGY

MISSION

The Division of Gastrointestinal Pathology supports the mission of the AFIP by providing consultation, education, and research on the pathology of the gastrointestinal tract.

STAFF

Medical:

Leslie H. Sobin, MD, FRCPath, Chief; Director, Center for Scientific Publications
Nancy S. Dow, LTC, USA, Staff Pathologist
(D) Amir I. Kende, Maj, USAF, MC, Staff Pathologist
David M. Burch, LCDR, MC, USN, Staff Pathologist
Christine M. Hobbs, MD, Staff Pathologist
(A) Marc H. Labovich, MAJ, MC, USA, Staff Pathologist
(D) Helen E. Remotti, MAJ, MC, USA, Staff Pathologist
(D) Jose Daniel Gomez, MD, Callender-Binford Fellow
(A) Harris Yfantis, MD, Callender-Binford Fellow

Administrative:

Mayra E. Aguilera, Secretary, ARP

Visiting Scientists:

Helen E. Remotti, MD
Birgitte H. Federspiel, MD

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	668
Army (266)	
Navy (136)	
Air Force (256)	
Foreign Military (10)	
Federal	1,219
VA (1,178)	
USPHS (4)	
OFA (19)	
AFIP (18)	
Civilian	1,733
Interdepartmental	220
Total	3,840

The above figures represent the following changes compared to 2001: a 17% increase in civilian cases, a 14% increase in federal cases, a 3.6% decrease in military cases, and a 46% decrease in interdepartmental consultations. The cases received represent a variety of problems, primarily neoplastic and precancerous lesions, and inflammatory diseases. Among the relatively uncommon lesions that are unusually prominent in the division's accessions are carcinoids, mesen-

chymal tumors, lymphomas, appendiceal mucinous tumors, and surveillance biopsies for dysplasia in cases of ulcerative colitis and Barrett esophagus. Barrett esophagus is particularly frequent. Staff members also participate in the review of consultation cases in the Division of Hepatic Pathology.

EDUCATION

Presentations and Seminars: Division staff gave 46 presentations at medical schools, hospitals, meetings, and seminars. Details are listed at the end of this report. A daily divisional conference is held to review all gastrointestinal cases accessioned within the previous 24 hours. The conference serves as the major educational forum and is part of the quality assurance program. A gastrointestinal radiology-pathology conference is held regularly. The staff also attends the daily hepatic pathology review conference and the weekly hepatic clinicopathologic conference. A monthly gastroenterology-pathology correlation conference is held at the Walter Reed Army Hospital with AFIP staff and members of the WRAMC/NNMC gastroenterology program.

Courses: Staff members participated in the 12th Annual Anatomic Pathology Review Course and organized the 13th Annual Course on Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, representing approximately 2,300 man-hours of training. The Virtual Gastrointestinal Endoscopic Biopsy Course provides CME credit for 40 cases on the AFIP Website, <http://www.afip.org/Departments/edu/webed/vgi/hgss01/frameset3.html>. The following data regarding the course were provided by the Departments of Telepathology and Medical Education:

Number of user sessions: 12,348
 Average number of page views per day: 116
 Average number of user sessions per day: 30
 Average user session length: 12 minutes
 Number of unique users: 5,042
 Number of repeat users: 1,264
 Number of users given CME credit: 23

Trainees: The division provided training to 18 civilian and military gastroenterology fellows and pathologists for a total of 482 training days.

Educational Aids:

1. Several thousand microscope slides, arranged by organ, demonstrating a wide variety of gastrointestinal lesions.
2. The endoscopic biopsy collection, consisting of over 500 cases. There are multiple copies for use in the annual course.
3. Ten sets of 35-mm transparencies, each accompanied by a syllabus, available for individual study. They are also sold by the ARP Bookstore, along with several WHO gastrointestinal pathology study sets.
4. A syllabus to accompany the division's Annual Course.
5. The *AFIP Atlas of Gastrointestinal Endoscopy and Endoscopic Biopsies* (Emory, et al.). This publication was produced by division staff in collaboration with the Mayo Clinic.
6. GI images and questions for board review: 48 cases on PowerPoint CD were available on computer terminals at the AFIP's Annual Anatomic Pathology Review Course in 2002.

RESEARCH

Publications: Division staff published 11 journal articles, 2 books, 2 book chapters, and 4 abstracts. Complete bibliographic information appears at the end of this report.

Projects: The division pursued the following intra- and extramural research projects in 2002:

1. Gastrointestinal stromal tumors (GISTs), clinicopathologic studies.
2. Anal duct carcinomas, clinicopathologic study.
3. Expression of cytokeratin-7 and -20 of GI epithelial malignancies.
4. Diagnostic accuracy of GI lesions by telepathology.
5. Inflammatory pseudotumors of the GI tract.
6. Inflammatory cloacogenic polyps, clinicopathologic study.
7. Esophageal carcinoids, clinicopathologic study.
8. Pathophysiologic basis of intussusception associated with the rotavirus vaccine.
9. Follicular lymphoma of the GI tract, clinicopathologic study.
10. Proliferation, apoptosis, microsatellite instability, and cell adhesion molecules in neoplasms of the colorectum and appendix.

11. Neurogenic tumors of the GI tract, clinicopathologic study.
12. Pathology of small adenomas.
13. Pathology of eosinophilic gastroenteritis.
14. Endoscopic detection of dysplasia in Barrett esophagus.
15. Immunohistochemical staining patterns in Barrett esophagus.
16. Radiologic-pathologic correlations: gastrointestinal stromal tumors.
17. Elastosis and elastofibromatous changes in the gastrointestinal tract.
18. Comparison of the clinical and molecular biological characteristics of early versus late age onset colorectal carcinoma in Filipinos.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. WRAMC, Division of Gastroenterology, gastroenterology-pathology correlation conference (monthly).
2. National Cancer Institute, Surveillance, Epidemiology, End Results (SEER) Program, International Classification of Diseases for Oncology and TNM/Prognostic Factors Classification and Cancer Staging.
3. National Cancer Institute, Surveillance, Epidemiology, End Results (SEER) Program, primary malignant neoplasms of the appendix: population-based study.
4. Centers for Disease Control and Prevention, intussusception and its possible relation to rotavirus vaccine.
5. Centers for Disease Control and Prevention, TNM/Prognostic Factors Classification and Cancer Staging.
6. Naval Medical Research Institute, pathology of small adenomas.
7. National Institute of Allergy and Infectious Diseases, pathology of eosinophilic gastroenteritis.
8. Food and Drug Administration, Gastrointestinal Drugs Advisory Committee, evaluating adverse effects of Alosetron in patients with irritable bowel syndrome.
9. Albany VA Medical Center, diagnostic accuracy of gastrointestinal lesions by telepathology.
10. WRAMC/NIH, endoscopic detection of dysplasia in Barrett esophagus.
11. WRAMC, immunohistochemical staining patterns and cell proliferation in Barrett esophagus.
12. USUHS, comparison of the clinical and molecular biological characteristics of early versus late age onset colorectal carcinoma in Filipinos.

Civilian:

University of Texas, Dallas, esophageal carcinoids, clinicopathologic studies.

University of Southampton, UK, proliferation, apoptosis, microsatellite instability, and cell adhesion molecules in neoplasms of the colorectum and appendix.

International:

1. WHO, International Histological Classification of Tumors.
2. WHO, International Classification of Diseases for Oncology (ICD-O).
3. International Agency for Research on Cancer, WHO Classification of Tumors: Pathology and Genetics of Tumors.
4. International Union Against Cancer (UICC), TNM/Prognostic Factors Classification and Cancer Staging

Committees:

Offices/Committee Memberships in National and International Societies:

LH Sobin:

1. Chair, TNM/Prognostic Factors Project of the International Union Against Cancer
2. Head, WHO Collaborating Center for International Histological Classification of Tumors
3. Editor, WHO International Histological Classification of Tumors
4. Member, WHO Expert Advisory Panel on Cancer
5. Series Coeditor, WHO Classification of Tumors: Pathology and Genetics of Tumors
6. Consultant, American Joint Committee on Cancer

Faculty Appointments (Pathology):

1. USUHS, Bethesda, Md, Professor, LH Sobin
2. Georgetown University Medical School, Adjunct Professor, LH Sobin
3. USUHS, Bethesda, Md, Adjunct Associate Professor, DM Burch
4. USUHS, Bethesda, Md, Adjunct Associate Professor, CM Hobbs

Continuing Education: The staff received training from the following in 2002:

1. Weekly Hepatic Clinical Pathologic Conference
2. AFIP and ARP Staff Conferences
3. US/Canadian Academy of Pathology courses and meeting
4. American Society of Clinical Pathology courses and meeting
5. American College of Gastroenterology Postgraduate Course and Scientific Meeting

Official Trips (funding agency in parentheses):

1. January 2002, Lyons, France, WHO/IARC Meeting on Classification of Breast Tumors, LH Sobin (WHO).
2. February 2002, Chicago, Ill, US/Canadian Academy of Pathology Annual Meeting, LH Sobin (ARP).
3. March 2002, Berlin, Germany, German Cancer Congress, LH Sobin (German Cancer Congress).
4. March 2002, Lyons, France, WHO/IARC Meeting on Classification of Female Genital Tract Tumors, LH Sobin (WHO).
5. April 2002, Lyons, France, WHO/IARC Meeting on Classification of Soft Tissue and Bone Tumors, LH Sobin (WHO).
6. April/May 2002, Roosevelt Roads Naval Hospital, Puerto Rico, Temporary relief of pathologist, DM Burch (DoD).
7. April/May 2002, Geneva, Switzerland, TNM-Prognostic Factors Project Committee Meeting, LH Sobin (UICC).
8. May 2002, New York, NY, WHO/IARC Preparatory Meeting on Pathology and Genetics of Endocrine Tumors, LH Sobin (WHO).
9. July 2002, Oslo, Norway, UICC International Cancer Congress, LH Sobin (UICC).
10. October 2002, Amsterdam, The Netherlands, International Academy of Pathology Congress, LH Sobin (ARP).

PRESENTATIONS

1. February 2002: Washington, DC, WRAMC, Monthly Gastroenterology-Pathology Correlation Conference, "Cases of the month," CM Hobbs.
2. February 2002: Bethesda, Md, USUHS, "Pathology lab on infectious disease," CM Hobbs.
3. February 2002: Washington, DC, Georgetown University Hospital Department of Pathology, "Neoplasia of the lower GI tract," DM Burch.
4. February 2002: Washington, DC, National Academy of Sciences, US National Committee for the International Union Against Cancer, "TNM classification and prognostic factors," LH Sobin.
5. March 2002: Washington, DC, WRAMC, Monthly Gastroenterology-Pathology Correlation Conference, "Cases of the month," N Dow.
6. April 2002: Washington, DC, Georgetown University, "Pathology of the gastrointestinal tract" (6 lectures to second-year medical students), LH Sobin.
7. April 2002: Orlando, Fla, Society of Gastrointestinal Pathologists, Walter B. Cannon Lecture, "Unusual and difficult intestinal polyps," LH Sobin.
8. April 2002: Bethesda, Md, 12th Annual Anatomic Pathology Review Course, "Neoplastic lesions of the esophagus and stomach," N Dow.
9. April 2002: Bethesda, Md, 12th Annual Anatomic Pathology Review Course, "Non-neoplastic disorders of the small intestine and selected topics," CM Hobbs.
10. April 2002: Bethesda, Md, 12th Annual Anatomic Pathology Review Course, "Neoplasia of the lower GI tract," DM Burch.
11. April 2002: Bethesda, Md, 12th Annual Anatomic Pathology Review Course, "Non-neoplastic disorders of the esophagus and stomach," AI Kende.
12. April 2002: Rockville, Md, National Cancer Institute Prostate, Lung, Colorectal, and

- Ovarian (PLCO) Cancer Screening Trial, Annual Medical Record Abstractors' Workshop, "Pathology in diagnosis of PLCO cancers," N Dow.
13. May 2002: Washington, DC, Georgetown University Hospital Department of Pathology, "Non-neoplastic disorders of the small intestine," CM Hobbs.
 14. July 2002: Oslo, Norway, International Cancer Congress, "Progress in the TNM classification, past, present, and future," LH Sobin.
 15. July 2002: Oslo, Norway, International Cancer Congress, "Current and future strategies on TNM staging," LH Sobin.
 16. August 2002: Washington, DC, AFIP Course, Diagnostic Surgical Pathology, "Precancerous lesions of the gastrointestinal tract and their imitators," "Unusual and difficult intestinal polyps," LH Sobin.
 17. August 2002: Washington, DC, WRAMC, Department of Pathology, "Non-neoplastic disorders of the small intestine and selected topics," CM Hobbs.
 18. August 2002: Washington, DC, WRAMC, Department of Pathology, "Dysplasia in Barrett esophagus," DM Burch.
 19. September 2002: Washington, DC, WRAMC, Monthly Gastroenterology-Pathology Correlation Conference, "Non-neoplastic disorders of the esophagus and stomach," CM Hobbs.
 20. September 2002: Bethesda, Md, AFIP/ARP Course, 13th Annual Review, Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the GI Tract, "The spectrum of gluten-sensitive enteropathy and watery diarrhea colitis syndrome," CM Hobbs.
 21. September 2002: Bethesda, Md, AFIP/ARP Course, 13th Annual Review, Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, "Precancerous lesions of the GI tract and their imitators," "Unusual and difficult intestinal polyps," "Gastrointestinal carcinoids and neuroendocrine tumors," LH Sobin.
 22. September 2002: Bethesda, Md, AFIP/ARP Course, 13th Annual Review, Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, "Dysplasia in the gastrointestinal tract: a systematic approach," DM Burch.
 23. September 2002: Bethesda, Md, AFIP/ARP 13th Annual Review, Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, "Problematic cases," N Dow.
 24. September 2002: Arlington, Va, Washington Hospital Center, Gastroenterology Board Review, "Pathology rounds," LH Sobin.
 25. October 2002: Washington, DC, George Washington University Hospital Department of Pathology, "Non-neoplastic disorders of the small intestine and selected topics," CM Hobbs.
 26. October/November 2002: Bethesda, Md, USUHS, "Pathology of the gastrointestinal tract" (4 lectures to second-year medical students), LH Sobin.
 27. October/November 2002: Washington, DC, WRAMC, Monthly Gastroenterology-Pathology Correlation Conference, "Esophagus: Barrett esophagus, dysplasia, and adenocarcinoma," N Dow.
 28. November 2002: Washington, DC, AFIP Weekly Professional Staff Conference, "The watery diarrhea colitis syndrome: lymphocytic and collagenous colitis," CM Hobbs.
 29. November 2002: Washington, DC, AFIP Weekly Professional Staff Conference, "Inflammatory bowel disease," DM Burch.
 30. November 2002: Bethesda, Md, USUHS, Pathology Lab on Liver, CM Hobbs.
 31. November 2002: Bethesda, Md, USUHS, Pathology Lab (3 sessions: GI and renal), M Labovich.
 32. December 2002: Bethesda, Md, USUHS, Pathology Lab, Molecular Pathology, M Labovich.
 33. December 2002: Washington, DC, WRAMC, Monthly Gastroenterology-Pathology Correlation Conference, "Stomach: reactive changes, premalignant changes, and malignancies," H Yfantis.

PUBLICATIONS

Journal Articles

1. Miettinen M, Paal E, Lasota J, Sobin LH. Gastrointestinal glomus tumors: a clinicopathologic, immunohistochemical, and molecular genetic study of 32 cases. *Am J Surg Pathol*.

- 2002;26:301-311.
2. Hoang MP, Hobbs CM, Sobin LH, Albores-Saavedra J. Carcinoid tumors of the esophagus: a clinicopathologic study of four cases. *Am J Surg Pathol.* 2002;26:517-522.
3. Fletcher CD, Berman JJ, Corless C, Gorstein F, Lasota J, Longley BJ, Miettinen M, O'Leary TJ, Remotti H, Rubin BP, Shmookler B, Sobin LH, Weiss SW. Diagnosis of gastrointestinal stromal tumors: a consensus approach. *Hum Pathol.* 2002;33:459-465.
4. Fletcher CD, Berman JJ, Corless C, Gorstein F, Lasota J, Longley BJ, Miettinen M, O'Leary TJ, Remotti H, Rubin BP, Shmookler B, Sobin LH, Weiss SW. Diagnosis of gastrointestinal stromal tumors: a consensus approach. *Int J Surg Pathol.* 2002;10:81-89.
5. Miettinen M, El-Rifai W, Sobin LH, Lasota J. Evaluation of malignancy and prognosis of gastrointestinal stromal tumors: a review. *Hum Pathol.* 2002;33:478-483.
6. Makhlof HR, Sobin LH. Inflammatory myofibroblastic tumors (inflammatory pseudotumors) of the gastrointestinal tract: how closely are they related to inflammatory fibroid polyps? *Hum Pathol.* 2002;33:307-315.
7. Sobin LH. Pathology in Afghanistan – revisited. *Int Pathol.* 2002;43:1,6.
8. Wittekind C, Compton CC, Greene FL, Sobin LH. TNM residual tumor classification revisited. *Cancer.* 2002;94:2511-2519.
9. McCusker ME, Cote TR, Clegg LX, Sobin LH. Primary malignant neoplasms of the appendix: a population-based study from the surveillance, epidemiology and end-results program, 1973-1998. *Cancer.* 2002;94:3307-3312.
10. Greene FL, Sobin LH. The TNM system: our language for cancer care. *J Surg Oncol.* 2002;80:119-120.
11. Carr NJ, Emory TS, Sobin LH. Epithelial neoplasms of the appendix and colorectum. An analysis of cell proliferation, apoptosis, and expression of p53. *Arch Pathol Lab Med.* 2002;126:837-841.

Abstracts

1. Lasota J, Wasag B, Millward CL, Rys J, Sobin LH, Miettinen M. NF1 but not NF2 gene is altered in distinctive gastrointestinal nerve sheath tumors traditionally diagnosed as benign schwannomas: a molecular genetic study based on 14 cases. *Mod Pathol.* 2002;15:134A.
2. Miettinen M, Paal E, Lasota J, Sobin LH. Gastrointestinal glomus tumors: a clinicopathologic immunohistochemical and molecular genetic study of 32 cases. *Mod Pathol.* 2002;15:138A.
3. Greene FL, Sobin LH. Current and future strategies on TNM staging. *Int J Cancer.* 2002;suppl 13:24, I 72.
4. Sobin LH. Progress in the TNM classification, past, present, and future. *Int J Cancer.* 2002;suppl 13:56, I 169.

Books

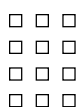
1. Sobin LH, Wittekind C, eds. *TNM Classification of Malignant Tumors.* 6th ed. New York, NY: Wiley; 2002.
2. Sobin LH, Wittekind C, Akerley W, eds. *TNM Classification of Malignant Tumors.* Mobile ed. 2.0. New York, NY: Wiley; 2002.

Book Chapters

1. Emory TS, Carpenter HA, Gostout CJ, Sobin LH. Pathology of non-tumorous lesions of the small intestine. In: Gourtsoyannis NC, ed. *Radiological Imaging of the Small Intestine.* Berlin, Germany: Springer; 2002.
2. Elsayed AM, Sobin LH. Pathology of small intestinal neoplasms. In: Gourtsoyannis NC, ed. *Radiological Imaging of the Small Intestine.* Berlin, Germany: Springer; 2002.



Esther L. B. Childers, COL, DC, USA
Chair
Date of Appointment – 27 August 2002



DEPARTMENT OF ORAL AND MAXILLOFACIAL PATHOLOGY

MISSION

The Department of Oral and Maxillofacial Pathology provides expert diagnostic consultation, education, and research in diseases of the oral mucosal and soft tissues, the jaws, and the major and minor salivary glands. The department also supports the Office of the Armed Forces Medical Examiner through expertise in forensic dental identification, and provides on- and off-site training in forensic odontology for the US Army, Air Force, Navy, and other government agencies.

STAFF

Medical:

Esther L. B. Childers, COL, DC, USA, Chair
Robert D. Foss, CAPT, DC, USN
Stephen B. Williams, COL, DC, USA
Kevin Torske, LCDR, DC, USN
Carla Penner, DDS, Callender-Binford Fellow
(D) Gary L. Ellis, DDS
(D) Charles W. Pemble, COL, USAF, DC
(D) Douglas M. Arendt, CAPT, DC, USN
(A) Mark Demsar, MAJ, DC, USA, Resident
(A) David Nunez, Maj, USAF, DC, Resident
(A) Brenda Nelson, LCDR, DC, USN, Resident

Administrative:

Patricia Ashburn, Secretary

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	373
Army (171)	
Navy (90)	
Air Force (92)	
Fmil (20)	
Federal	258
VA (253)	
USPHS (1)	
OFA (4)	
Civilian	1,027
Interdepartmental	195
Total	1,853

Our department consults on a wide variety of pathologic processes that affect the oral mucosa and jaws, major and minor salivary glands, and associated structures in the maxillary sinus and neck, including odontogenic cysts and tumors, salivary gland lesions, and metastatic disease. We receive requests for consultation from US Army, Navy, and Air Force medical treatment facilities, Veterans Affairs medical centers, and US Public Health medical treatment centers, as well as civilian treatment facilities in the US and worldwide.

Our department received 1,658 cases for consultation in 2002. We made a major change in contributor diagnosis in 94 cases, a minor change in 634 cases, and no change in 751 cases. We received 160 cases with no contributor diagnosis; 19 cases were recorded without coding. 1,658 cases for consultation, education, and research required the following types of procedures and analyses:

- H&E stain: 6,201 slides
- Special stains: 364 slides
- Immunohistochemical stains: 3,273 slides
- Total AFIP slides studied: 9,838 slides
- Telepathology consultation was performed for 15 cases.

Impact:

1. Members of the department were deployed, in support of the OAFME, on forensic identification missions in several high-profile disasters. These forensic missions provide rapid, accurate identification of victims of national disasters, that result in timely return of remains to next of kin.
2. The off-site forensic dental identification training laboratories were deployed to 12 military commands and provided 4,400 man-hours of training for future mass casualty disasters. This training represents a major source of forensic dental identification training in the US Armed Forces.
3. At the annual meeting of the American Academy of Oral and Maxillofacial Pathology, the AFIP Slide Seminar continues to be the most popular continuing education course, and is always fully subscribed. In its 24th year, the seminar promotes the department and the Registry of Oral and Maxillofacial Pathology as a world leader in this specialty.
4. Also at the Academy of Oral and Maxillofacial Pathology meeting, Dr. Ellis presented the annual Founder's Slide Seminar to 200 pathologists. This lecture features a renowned expert in the field and is a highlight of the annual meeting.
5. The third year of the residency program in oral and maxillofacial pathology, National Naval Dental School, is structured to provide opportunities for slide and case review with staff, both individually and collectively. Presentation of a research project by the residents at the annual meeting of the American Academy of Oral and Maxillofacial Pathology promotes our missions of education and research.
6. Department staff include the Consultant to the Surgeon General of the Army for Oral and Maxillofacial Pathology, HIV, and Forensic Dentistry; the Consultant to the Surgeon General of the Air Force for Forensic Dentistry; the Consultant to the Surgeon General of the Navy for Oral and Maxillofacial Pathology; and the Consultant to the Surgeon General of the Navy for Forensic Dentistry.

Deployments:

Members of the department maintain a state of readiness, and are prepared to deploy within 4 hours of notification. In 2002, the department had 17 deployments to support the OAFME with rapid, accurate, and reliable dental identification. Using state-of-the-art digital technology, the identification process was completed within hours of the postmortem examination, facilitating the rapid return of remains to the family.

1. January 13-14, 2002, Dover AFB, Del. Forensic identification. D Arendt, D Nunez, M Demsar.
2. January 17-18, 2002, Dover AFB, Del. Forensic identification. D Arendt.
3. February 22, 2002, Dover AFB, Del. Forensic identification. S Williams.
4. February 26, 2002, Dover AFB, Del. Forensic identification. S Williams, M Demsar.
5. March 6, 2002, Dover AFB, Del. Forensic identification. S Williams, K Torske, D Nunez, M Demsar.
6. April 5, 2002, Dover AFB, Del. Forensic identification. E Childers, K Torkse.
7. April 8, 2002, Dover AFB, Del. Forensic identification. E Childers.

8. April 17, 2002, Dover AFB, Del. Forensic identification. D Arendt.
9. May 28-31, 2002, Dover AFB, Del. Forensic identification. E Childers.
10. June 18, 2002, Dover AFB, Del. Forensic identification. K Torske, S Williams.
11. July 4, 2002, Dover AFB, Del. Forensic identification. S Williams.
12. August 9-10, 2002, Dover AFB, Del. Forensic identification. K Torske.
13. August 15, 2002, Dover AFB, Del. Forensic identification. E Childers.
14. August 16, 2002, Dover AFB, Del. Forensic identification. K Torske.
15. December 13, 2002, Dover AFB, Del. Forensic identification. S Williams.
16. December 13, 2002, Monmouth, NJ, Medical Examiner's Office. Forensic identification. R Foss.
17. December 14, 2002, Dover AFB, Del. Forensic identification. S Williams.

EDUCATION

Presentations and Seminars: Department staff made 85 presentations in 2002 at national and international conferences, professional meetings, and in-house staff development conferences. A complete list of dates and titles appears at the end of this report.

Courses: Department staff participated in 12 AFIP/ARP courses, including the department's 2 major course offerings, Forensic Identification and Surgical Oral and Maxillofacial Pathology, for a total of 11,000 man-hours of training. The staff participated in 13 non-AFIP courses, for 1,809 man-hours of education.

Trainees: The department had 3 third-year residents in oral and maxillofacial pathology from January 1 to June 30, 2002. One resident remained as a staff member for an additional 5 months. One Callender-Binford Fellow was assigned to the department on a half-time basis from July 1 to December 31, 2002. The department had 4 visiting pathologists for 158 man-days of training.

Educational Aids: The Registry of Oral and Maxillofacial Pathology Cases of the Month are posted on the department's Web site. It is utilized by pathologists for peer review and education, and is accredited by the American Board of Oral and Maxillofacial Pathology for fulfillment of the peer review requirement to maintain board certification. Each case is originally presented as an unknown and then followed up with a presentation of participant diagnoses, AFIP diagnosis, and a discussion. Twelve new cases are posted each year; older cases are archived on the Web site and are available for study.

Portable forensic dental identification workshop kits and 3 deployable forensic dental identification training laboratories were deployed to 12 military commands, providing 4,400 man-hours of training in 2002.

RESEARCH

Publications: Members of the department published 5 journal articles and 6 abstracts. Complete bibliographic data are listed at the end of this report.

Projects:

1. Sialoblastomas
2. Molecular diagnosis of malignant salivary gland tumors
3. Mesenchymal tumors of the head and neck
4. Atypical chondroid neoplasia of the jaws
5. Clear cell odontogenic tumors
6. Adenoid cystic carcinoma of the nasal region
7. Dermoid cysts of the maxillary sinus
8. Genotyping and immunohistochemical analysis of odontogenic tumors

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

Frederic Kaye, MD, molecular diagnosis of malignant salivary gland tumors

Civilian:

Jennifer Hunt, MD, genotyping of odontogenic tumors

Interdepartmental:

1. Julie Fanburg-Smith, MD, soft tissue tumors of the head and neck
2. Lester Thompson, MD, dermoid cysts of the maxillary sinus
3. Lester Thompson, MD, middle ear adenomas

Honors:

1. Outstanding Civilian Service Award, G Ellis
2. Distinguished Meritorious Service Medal, D Arendt
3. Joint Service Commendation Award, E Childers, S Williams, B Nelson, D Nunez, W Demsar, D Arendt
4. Joint Service Achievement Award, D Nunez

Committees:

Editorial Boards:

G Ellis:

1. *Annals of Diagnostic Pathology*
2. *American Journal of Surgical Pathology*
3. *Modern Pathology*
4. *Cancer*

Manuscripts Reviewed: Members of the department reviewed 9 articles for the following professional journals:

1. *Annals of Diagnostic Pathology*
2. *Cancer*
3. *American Journal of Surgical Pathology*
4. *Modern Pathology*

Offices/Committee Memberships in National or International Societies:

1. Chair, Fellowship Committee, American Academy of Oral and Maxillofacial Pathology, R Foss
2. Member, Education Committee, American Academy of Oral and Maxillofacial Pathology, D Arendt
3. Board of Governors, American Society of Forensic Odontology, D Arendt
4. Board of Directors, American Board of Forensic Odontology, D Arendt
5. Webmaster, American Society of Forensic Odontology, D Arendt
6. Team Leader, Planning Panel and Technical Working Group, Department of Justice, NCFS, D Arendt
7. Member, American Dental Association Workshop on Dentistry's Response to Bioterrorism, C Pemble
8. Department of the Army Secretariat Board, Colonel Promotion Board, E Childers

Official Trips (funding agency in parentheses):

1. January 2002, Triservice Dental Educators Conference, San Antonio, Tex, E Childers (DENCOM).
2. February 2002, Federal Services General Dentistry Board Review, Ramstein, Germany, E Childers (Landstuhl DENTAC).
3. April 2002, American Academy of Oral and Maxillofacial Pathology, New Orleans, La, C Pemble, G Ellis, D Arendt, E Childers, D Nunez, B Nelson, W Demsar, K Torske (ARP).
4. May 2002, AEGD/1YR, Ft. Sill, Okla, E Childers (Ft. Sill DENTAC).
5. October 2002, American Board of Oral and Maxillofacial Pathology, Tampa, Fla, C Penner (ARP).
6. November 2002, Surgical Oral and Maxillofacial Pathology, San Antonio, Tex, C Pemble, E Childers, G Ellis, K Torske, S Williams (ARP).

Continuing Education: Department staff attended the following training courses during 2002 (funding agency in parentheses):

1. Annual Meeting of the American Academy of Oral and Maxillofacial Pathology (ARP)
2. Annual Meeting of the Academy of Forensic Sciences (AFIP)
3. Weekly Professional Staff Conferences (AFIP)

4. Oral and Maxillofacial Pathology/Otolaryngologic and Endocrine Pathology Conference (AFIP)
5. Oral and Maxillofacial Pathology/Radiology Pathology Conference (AFIP)
6. Triservice Dental Educators Conference (DENCOM)

PRESENTATIONS

1. January 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
2. January 2002: Washington, DC, AFIP, "ENT/OP slide conference," K Torske.
3. January 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
4. January 2002: Washington, DC, AFIP, "Salivary gland pathology, glass slide presentation," K Torske.
5. January 2002: Washington, DC, AFIP, "Odontogenic pathology, glass slide presentation," K Torske.
6. January 2002: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," E Childers.
7. February 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
8. February 2002: Bethesda, Md, National Naval Dental School, "Bone pathology," K Torske.
9. February 2002: Bethesda, Md, National Naval Dental School, "CPC," K Torske.
10. February 2002: Washington, DC, AFIP, "ENT/OP slide conference," K Torske.
11. February 2002: Bethesda, Md, National Naval Dental School, "CPC," K Torske.
12. February 2002: Washington, DC, AFIP, "Salivary gland pathology, glass slide presentation," K Torske.
13. February 2002: Bethesda, Md, National Naval Dental School, "Bone pathology," K Torske.
14. February 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
15. February 2002: Washington, DC, WRAMC, "Bone pathology," K Torske.
16. February 2002: Scott AFB, Ill, "Forensic dental identification, AF dental identification UTC, and status of the CPSF," C Pemble.
17. February 2002: Landstuhl, Germany, "Review of oral pathology," E Childers.
18. February 2002: Landstuhl, Germany, "Mock board examination," E Childers.
19. February 2002: Landstuhl, Germany, "Oral cancer," E Childers.
20. February 2002: Landstuhl, Germany, "Oral cancer and CPC," E Childers.
21. February 2002: Landstuhl, Germany, "Forensic overview," E Childers.
22. March 2002: Washington, DC, AFIP, "Professional staff conference," E Childers.
23. March 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
24. March 2002: Washington, DC, AFIP, "ENT/OP slide conference," K Torske.
25. March 2002: Bethesda, Md, National Naval Dental School, "Unknown slide conference," K Torske.
26. March 2002: Bethesda, Md, National Naval Dental School, Basic Science Course in Otolaryngology/Head and Neck Surgery, "Bone pathology," K Torske.
27. March 2002: Baltimore, Md, Oral Pathology Continuing Education Course, K Torske.
28. March 2002: Washington, DC, WRAMC, "Unknown slide conference," K Torske.
29. March 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
30. March 2002: Bethesda, Md, National Naval Dental School, "Unknown slide conference," K Torske.
31. March 2002: Washington, DC, WRAMC, "Unknown slide conference," K Torske.
32. March 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
33. March 2002: Washington, DC, AFIP, "Salivary gland pathology, glass slide presentation," K Torske.

34. March 2002: Washington, DC, AFIP, "ENT/OP slide conference," K Torske.
35. March 2002: Washington, DC, AFIP, Baylor HCA Masters, "Overview of forensic dentistry," E Childers.
36. March 2002: Dam Neck, Va, Joint Forces Command, Joint Task Force Surgeons' Seminar, "The AFIP's Armed Forces Medical Examiner System," C Pemble.
37. March 2002: Washington, DC, WRAMC, "Developing a differential diagnosis," E Childers.
38. March 2002: San Diego, Calif, AEGD/1YR, "Forensic identification," D Arendt.
39. March 2002: San Diego, Calif, AEGD/1YR, "Forensic identification," D Arendt.
40. March 2002: Washington, DC, AFIP, "Forensic odontology," D Arendt.
41. April 2002: New Orleans, La, AAOMP Annual Meeting, "AFIP seminar," Staff.
42. April 2002: Washington, DC, AFIP, "Salivary gland pathology, glass slide presentation," K Torske.
43. April 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
44. April 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
45. April 2002: Bethesda, Md, National Naval Dental School, "AFIP Anatomic Pathology Course," K Torske.
46. April 2002: New Orleans, La, American Academy of Oral and Maxillofacial Pathology, "Founders' Memorial Slide Seminar," G Ellis.
47. April 2002: Washington, DC, George Washington University, "Forensic dentistry," D Arendt.
48. May 2002: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," E Childers.
49. May 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
50. May 2002: Washington, DC, AFIP, "ENT/OP slide conference," K Torske.
51. May 2002: Cleveland, Ohio, University Hospitals of Cleveland, The James W. Reagan Memorial Symposium, "Problems in surgical pathology of salivary gland neoplasms," G Ellis.
52. May 2002: Cleveland, Ohio, University Hospitals of Cleveland, "Slide seminar for pathology residents," G Ellis.
53. May 2002: Bethesda, Md, USUHS, "Forensic anthropology," D Arendt.
54. June 2002: Washington, DC, AFIP, "ENT/OP slide conference," K Torske.
55. June 2002: Washington, DC, Howard University, "Forensic dentistry overview," E Childers.
56. June 2002: Washington, DC, AFIP, "Overview of oral pathology," D Arendt.
57. July 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
58. August 2002: Washington, DC, AFIP, "Salivary gland pathology, glass slide presentation," K Torske.
59. September 2002: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," E Childers.
60. September 2002: Washington, DC, AFIP, "Response to 9/11," C Pemble.
61. September 2002: Washington, DC, AFIP, "ENT/OP slide conference," K Torske.
62. September 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
63. September 2002: Washington, DC, AFIP, "Salivary gland pathology, glass slide presentation," K Torske.
64. September 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
65. October 2002: Washington, DC, AFIP, "Oral and maxillofacial pathology for radiologists," E Childers.
66. October 2002: Washington, DC, AFIP, "Salivary gland pathology, glass slide presentation," K Torske.
67. October 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
68. October 2002: Bethesda, Md, National Naval Dental School, "Unknown slide conference," K Torske.
69. October 2002: Washington, DC, WRAMC, "Unknown slide conference," K Torske.

70. October 2002: Bethesda, Md, National Naval Dental School, "Unknown slide conference (1 week)," K Torske.
71. October 2002: Washington, DC, AFIP, "Radiology conference," K Torske.
72. October 2002: Washington, DC, WRAMC, "Carcinomas of the oral cavity," K Torske.
73. October 2002: Bethesda, Md, National Naval Dental School, "Carcinomas of the oral cavity," K Torske.
74. October 2002: Baltimore, Md, University of Maryland Medical Center, "Slide seminar for pathology residents," G Ellis.
75. October 2002: Baltimore, Md, University of Maryland Medical Center, "Problems in surgical pathology of salivary gland neoplasms," G Ellis.
76. November 2002: Washington, DC, George Washington University, "Forensic dentistry," E Childers.
77. November 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
78. November 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
79. November 2002: Louisville, Ky, AMSUS Annual Meeting, "Forensic dental operations since 9/11," C Pemble.
80. December 2002: San Antonio, Tex, "Practical oral pathology," E Childers.
81. December 2002: San Antonio, Tex, "Odontogenesis, odontogenic tumors, white lesions," C Pemble.
82. December 2002: San Antonio, Tex, "Surgical oral pathology," K Torske.
83. December 2002: Washington, DC, AFIP, "Weekly junior staff pathology conference," K Torske.
84. December 2002: Bethesda, Md, National Naval Dental School, "Unknown slide conference," K Torske.
85. December 2002: San Antonio, Tex, "Surgical oral and maxillofacial pathology," G Ellis.

PUBLICATIONS

Journal Articles

1. Childers EB, Furlong MA, Fanburg-Smith JC. Hemangioma of the salivary gland. A study of ten cases of a rarely biopsied/excised lesion. *Ann Diagn Pathol.* 2002;6:339-344.
2. Fanburg-Smith JC, Furlong MA, Childers EB. Liposarcoma of the oral and salivary gland region: a clinicopathologic study of 18 cases with emphasis on specific sites, morphologic subtypes and clinical outcomes. *Mod Pathol.* 2002;15:1020-1031.
3. Torske KR, Thompson LDR. Adenoma vs. carcinoid tumor of the middle ear. *Mod Pathol.* 2002;15:534-555.
4. Kaplan KJ, Torske KR. Pathologic quiz case: a 3-year-old boy with swelling of the right mandible. *Arch Pathol Lab Med.* 2002;126:107-108.
5. Mealey BL, Tunder GS, Pemble CW. Primary extranodal malignant lymphoma affecting the periodontium. *J Periodontol.* 2002;73:937-941.

Abstracts

1. Nunez D, Williams S, Pemble C. Squamous cell carcinoma ex odontogenic keratocyst: a review of cases from the Armed Forces Institute of Pathology. *Oral Surg Oral Med Oral Pathol.* 2002;94:208.
2. Demsar W, Williams S. Palatal mucosal calcified nodule: case report and review of the literature. *Oral Surg Oral Med Oral Pathol.* 2002;94:211.
3. Nelson B, Williams S, Norton S. Oral-facial digital syndrome type I: a long-term follow-up. *Oral Surg Oral Med Oral Pathol.* 2002;94:212.
4. Childers EB, Furlong MA, Fanburg-Smith JC. Oral and maxillofacial lipoma. A clinico-pathologic study of 125 cases. Presented at the US and Canadian Academy of Pathology Annual Meeting. *Mod Pathol.* 2002;15;1:P.216A.
5. Childers EB, Furlong MA, Fanburg-Smith JC. Hemangioma of the salivary gland. A study of ten cases of a rarely biopsied/excised lesion. Presented at the US and Canadian Academy of Pathology Annual Meeting. *Mod Pathol.* 2002;15;1:P.215A.
6. Fanburg-Smith JC, Furlong MA, Childers EB. Oral and salivary gland angiosarcoma. A

clinicopathologic study of 29 cases. Presented at the US and Canadian Academy of Pathology Annual Meeting. *Mod Pathol*. 2002;15;1:P.213A.

Book Chapter

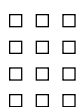
Ellis GL, Auclair PL. Pathology of the salivary glands. In: Weidner N, Chan JK, Cote RJ, Suster S, Weiss LM, eds. *Modern Surgical Pathology*. Philadelphia, Pa: W.B. Saunders; 2002.

GOALS

To enhance our contribution to military readiness by increasing the number of military and other government agency contributors and attendees at our short courses.



William D. Travis, MD
Chair
Date of Appointment —1 November 1993



DEPARTMENT OF PULMONARY AND MEDIASTINAL PATHOLOGY

MISSION

The Department of Pulmonary and Mediastinal Pathology provides consultation, education, and research in pulmonary and mediastinal pathology to military and civilian pathologists and medical practitioners worldwide.

STAFF

Medical:

William D. Travis, MD
Teri Franks, MD
Dennis L. Hayden, MD
Elena Selbs, MD

NIH/AFIP Pulmonary Pathology Fellows:

Ping He, MD
Teh-Ying Chou, MD

AFIP Visiting Fellow:

Hiroshi Minato, MD, Kanazawa University Hospital, Kanazawa City, Japan

National Cancer Institute/AFIP Fellows:

Takeshi Fujii, MD, Tokyo University, Tokyo, Japan
Junya Fukuoka, MD, National Cancer Institute, Bethesda, Md

Administrative:

Tammie Winters, Administrative Officer
Kim Jones, Secretary
Ronette Curtis, Administrative Clerk (April 2002)
Duane Brand, Administrative Clerk (July – December 2002)

DIAGNOSTIC CONSULTATION

Cases _____ Completed

Military	295
Army (137)	
Navy (63)	
Air Force (95)	
Federal	712
VA (686)	
USPHS (1)	
OFA (25)	
Civilian	1,518
Interdepartmental	265
Total	2,790

Evaluation of cases required the following types of procedures and analyses:

- H&E stains: 5,933
- Special stains: 3,545
- Immunohistochemical staining: 11,002
- Electron microscopy: 11
- Direct immunofluorescence: 3
- Molecular biology examination: 57

Our department made no change in the contributor diagnosis in 971 cases, a minor change in diagnosis in 872 cases, and a major change in diagnosis in 74 cases. We received 621 cases with no contributor diagnosis.

EDUCATION

Presentations and Seminars: Department staff made 49 presentations at professional meetings and symposia in 2002. A complete list of dates and titles appears at the end of this report. In addition, Dr. Travis presents the lung pathology for the monthly meetings of the Washington, DC Thoracic Society, the local chapter of the American Thoracic Society. He regularly presents the pathology for the case presentations for those patients with available lung pathology specimens. These specimens are often submitted to the department in advance from hospitals around the Washington, DC area. Dr. Travis also participates in a bimonthly pulmonary journal club for DC thoracic physicians.

Courses: Members of the department participated in 1 non-AFIP and 2 AFIP courses in 2002.

Trainees: Our department is well recognized as an international center for training in pulmonary pathology. In 2002, visitors from Israel (1 month) and Japan (1 year) spent their sabbaticals in our department. We have had many applications for future fellowship positions from around the US and the world. Our resources provide a unique opportunity for fellowship training, which is a major priority of the department. During 2002, we had 1 doctor rotate in the department from Howard University, 1 from the University of Maryland, 1 from Metro Health Center, Cleveland, 2 from Washington Hospital Center, 1 from the University of South Carolina, 1 from the University of Rochester, and 1 from the NIH.

Educational Aids: Our department has one of the most extensive slide teaching collections in the world for pulmonary and mediastinal pathology cases. Over 4,000 cases are accessioned into this study set. Departmental fellows, staff, and visiting physicians are able to utilize this invaluable resource for education, teaching, and publications. We also have Kodachrome study sets and CD-ROM-based teaching materials.

RESEARCH

Publications: Department staff published 12 journal articles, 12 abstracts, 1 book chapter, and 1 book in 2002. Complete references are listed at the end of this report.

Projects: In 2002 the department maintained 12 research protocols, as listed below:

1. Analysis of Lung Cancer Using Tissue Microarray
2. Lymphangioleiomyomatosis
3. Localized Fibrous Tumor of the Pleura
4. Neuroendocrine Tumors of the Lung
5. Immunohistochemical Staining for p53, PDGF, and p16 Antibodies in Malignant Mesotheliomas and Atypical Mesothelial Hyperplasia
6. Immunohistochemical Staining for p53, WT1 and Decorin in Malignant Mesotheliomas and Adenocarcinomas
7. Inflammatory Pseudotumor of the Lung: A Clinicopathologic Study of 75 Cases
8. Pulmonary Sclerosing Hemangioma
9. Chronic Fibrosing Pleuritis, Atypical Mesothelial Hyperplasia, and Desmoplastic Mesothelioma
10. Molecular Biology of Lung Cancer
11. Histologic Analysis and Immunohistochemical Staining Profile of Pleuropulmonary Blastoma
12. Use of Immunohistochemistry in Determination of Primary Sites for Carcinoma Presenting in the Mediastinum and Separation of Thymoma from Atypical Thymoma and Thymic Carcinoma

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. NIH, National Heart Lung and Blood Institute, lymphangioleiomyomatosis and interstitial lung disease.
2. National Cancer Institute, molecular biology of lung cancer.

Civilian:

1. Mayo Clinic, molecular biology of lung cancer, neuroendocrine lung tumors.
2. Brompton Hospital, London, England, neuroendocrine lung tumors.
3. University of Grenoble, France, neuroendocrine lung tumors, molecular biology of lung cancer.
4. Caen, France, molecular biology of lung cancer, malignant mesothelioma.
5. University of Maastricht, The Netherlands, neuroendocrine lung tumors.
6. Emory University, Atlanta, Ga, inflammatory pseudotumors.
7. University of Southern California, Los Angeles, interstitial lung disease.
8. University of California, San Francisco, interstitial lung disease.
9. University of Iowa, interstitial lung disease.
10. University of Colorado, interstitial lung disease.
11. Kyoto University, Kyoto, Japan, interstitial lung disease.

Interdepartmental:

1. Department of Hematopathology, cyclin D1 in lung carcinomas and neuroendocrine lung tumors.
2. Department of Cellular Pathology, molecular biology of lung cancer.
3. Department of Radiologic Pathology, interstitial lung disease, bronchioloalveolar carcinoma.

Panels:

WD Travis:

1. Chair, Pathology Panel, International Association for the Study of Lung Cancer
2. Member, US/Canadian Mesothelioma Reference Panel
3. Member, International Association for the Study of Lung Cancer/National Cancer Institute SPORE Pathology Working Group: Classification of Preinvasive Epithelial Abnormalities of Lung
4. Member, International Mesothelioma Panel
5. Cochair, American Thoracic Society Nonspecific Interstitial Pneumonia Working Group
6. International Association for the Study of Lung Cancer Staging Committee

Committees:

Editorial Boards:

WD Travis:

1. *American Journal of Surgical Pathology*
2. *Human Pathology*
3. *Atlas of Tumor Pathology, AFIP Fascicle 4th Series*
4. *Lung Cancer*
5. *Clinical Cancer Research*
6. *Pathology International*

Manuscripts Reviewed:

WD Travis:

1. *Modern Pathology*
2. *American Journal of Surgical Pathology*
3. *Chest*
4. *International Journal of Cancer*
5. *European Respiratory Journal*
6. *Annals of Epidemiology*
7. *Human Pathology*

8. *American Journal of Respiratory and Critical Care Medicine*
9. *Annals of Oncology*
10. *Pulmonary Pathology*

Offices/Committee Memberships in National and International Societies:

WD Travis:

1. Staging Committee, International Association for the Study of Lung Cancer
2. Program Committee, American Thoracic Society Assembly on Respiratory Structure and Function
3. Vice President, Pulmonary Pathology Society
4. Program Committee, American Thoracic Society Assembly on Clinical Problems
5. Scientific Board of the European 6th Framework Program, Network of Excellence on Lung Cancer
6. International Union Against Cancer (UICC) TNM Expert Advisory Panel on Lung Tumours, 2001-present
7. American Joint Committee on Cancer, Lung and Esophagus Task Force, 2001-present
8. International Relations Committee, American Thoracic Society, 2000-present

T. Franks:

Abstract Review Board, USCAP, 2002

Faculty Appointments:

1. Georgetown University School of Medicine, Adjunct Professor, Department of Pathology, WD Travis.
2. USUHS, Adjunct Associate Professor, Department of Pathology, WD Travis.

Clinical Staff Appointments:

1. National Cancer Institute, National Institutes of Health, Consultant, Pulmonary Pathology, Laboratory of Pathology, WD Travis.
2. National Heart, Lung, and Blood Institute, National Institutes of Health, Consultant, Pulmonary Pathology, Pathology and Pulmonary Branch, WD Travis.

Chair or Moderator of Sessions at Academic Meetings:

WD Travis:

1. February 23, 2002, Moderator, Pulmonary Pathology Society Meeting: Pulmonary Infectious Disease.
2. April 5, 2002, Chair, Pathology Session: 6th International Conference on Screening for Lung Cancer, Paris, France.
3. June 8-9, 2002, Cochair, American Thoracic Society Workshop on Nonspecific Interstitial Pneumonia, AFIP, Washington, DC.
4. October 6, 2002, Cochair, Neoplastic Lung Pathology, Slide Seminar, 24th International Academy of Pathology, Amsterdam, The Netherlands.
5. October 18, 2002, Moderator, Case Presentations, Radiologic, Cytologic Correlations at Early Lung Cancer Action Project International Conference, Weill-Cornell Medical Center, New York, NY.
6. December 13-15, 2002, Cochair, American Thoracic Society Workshop on Nonspecific Interstitial Pneumonia, AFIP, Washington, DC.

Official Trips :

WD Travis:

1. March 2002, Idiopathic Interstitial Pneumonia, International Update on Occupational and Environmental Respiratory Disease, Baylor College of Medicine, Houston, Tex.
2. March 2002, Georgia Pathology Society, Savannah, Ga.
3. May 2002, Matthews Lecture, Louisiana State University, Shreveport, La.
4. June 2002, American College of Chest Physicians, Lung Pathology Course, Phoenix, Ariz.
5. September 2002, Detroit Society of Pathologists, William Beaumont Hospital, Detroit, Mich.
6. September 2002, European Respiratory Society, Stockholm, Sweden.
7. September 2002, University of Pittsburgh, Pittsburgh, Pa.
8. September 2002, Virginia Thoracic Society, Richmond, Va.

9. November 2002, Royal College of Physicians Lecture, University of Toronto, Toronto, Ontario.

T Franks:

January 2002, Taiwanese Society of Pathology, Taipei, Taiwan.

PRESENTATIONS

1. January 2002: Taipei, Taiwan, Taiwanese Society of Pathology, "Lung tumors: the WHO classification," T Franks.
2. January 2002: Taipei, Taiwan, Taiwanese Society of Pathology, "Primary tumors and cysts of the mediastinum," T Franks.
3. January 2002: Taipei, Taiwan, Categorical Course of Radiologic-Pathologic Correlation in Thoracic Imaging, Radiological Society of the Republic of China, "Lung tumors: the WHO classification," T Franks.
4. January 2002: Taipei, Taiwan, Categorical Course of Radiologic-Pathologic Correlation in Thoracic Imaging, Radiological Society of the Republic of China, "Unusual tumors and tumor-like lesions of the lung," T Franks.
5. January 2002: Taipei, Taiwan, Categorical Course of Radiologic-Pathologic Correlation in Thoracic Imaging, Radiological Society of the Republic of China, "Primary tumors and cysts of the mediastinum," T Franks.
6. January 2002: Taipei, Taiwan, Categorical Course of Radiologic-Pathologic Correlation in Thoracic Imaging, Radiological Society of the Republic of China, "Radiologic-pathologic correlation of lung lesions: unknown case seminar," T Franks.
7. January 2002: Washington, DC, Georgetown University School of Medicine, "Interstitial lung disease," WD Travis.
8. January 2002: Washington, DC, Georgetown University School of Medicine, "Lung and pleural tumors," WD Travis.
9. March 2002: Houston, Tex, Baylor College of Medicine, "Idiopathic interstitial pneumonia, international update on occupational and environmental respiratory disease," WD Travis.
10. March 2002: Savannah, Ga, Georgia Pathology Society, "Nonneoplastic and neoplastic lung disease," WD Travis.
11. March 2002: Bethesda, Md, USUHS, "Idiopathic interstitial pneumonias," WD Travis.
12. April 2002: Bethesda, Md, AFIP 12th Annual Anatomic Review Course, "Lung tumors: the WHO classification," T Franks.
13. April 2002: Bethesda, Md, AFIP 12th Annual Anatomic Review Course, "Pathology of the mediastinum and pleura," T Franks.
14. April 2002: Bethesda, Md, 12th Annual AFIP Anatomic Review Course, "Idiopathic interstitial pneumonias," WD Travis.
15. April 2002: McLean, Va, Intermune Dinner Conference, "Pathology of idiopathic interstitial pneumonias," WD Travis.
16. May 2002: Shreveport, La, Louisiana State University, Matthews Lecture, "The ATS/ERS classification of idiopathic interstitial pneumonias," WD Travis.
17. May 2002: Shreveport, La, Louisiana State University, Department of Pathology, "Slide seminar," WD Travis.
18. May 2002: Atlanta, Ga, American Thoracic Society, Postgraduate Course on Lung Pathology for the Pulmonologist, "Pathology of idiopathic interstitial pneumonias," WD Travis.
19. May 2002: Atlanta, Ga, American Thoracic Society, "The role of pathologic assessment: importance of the new ATS/ERS classification of the idiopathic interstitial pneumonias (IIPs): IIP in the new millennium: a primer for the pulmonologist," WD Travis.
20. June 2002: Phoenix, Ariz, American College of Chest Physicians, Lung Pathology Course, "Introduction to WHO classification of lung tumors," WD Travis.
21. June 2002: Phoenix, Ariz, American College of Chest Physicians, Lung Pathology Course, "Small cell carcinoma and other neuroendocrine tumors," WD Travis.
22. June 2002: Phoenix, Ariz, American College of Chest Physicians, Lung Pathology Course, "Non-small cell lung carcinomas," WD Travis.
23. June 2002: Chevy Chase, Md, Journal Club, DC Thoracic Society, WD Travis.
24. September 2002: Washington, DC, Departments of Pathology, WRAMC and NNMC,

- "Lung tumors: the WHO classification," T Franks.
25. September 2002: Washington, DC, Departments of Pathology, WRAMC and NNMC, "Unusual tumors and tumor-like lesions of the lung," T Franks.
 26. September 2002: Washington, DC, Departments of Pathology, WRAMC and NNMC, "Primary tumors and cysts of the mediastinum," T Franks.
 27. September 2002: Washington, DC, Departments of Pathology, WRAMC and NNMC, "Pathology of the pleura," T Franks.
 28. September 2002: Detroit, Mich, Detroit Society of Pathologists, William Beaumont Hospital, "Slide seminar on lung tumors," WD Travis.
 29. September 2002: Stockholm, Sweden, European Respiratory Society, "Morphology of airways disease: constrictive bronchiolitis and asthma/COPD," WD Travis.
 30. September 2002: Pittsburgh, Pa, University of Pittsburgh, "Current concepts in pulmonary neuroendocrine tumors," WD Travis.
 31. September 2002: Richmond, Va, Virginia Thoracic Society, "Pathology of idiopathic interstitial pneumonias," WD Travis.
 32. September 2002: Richmond, Va, Virginia Thoracic Society, "Pathology of other interstitial diseases," WD Travis.
 33. September 2002: Washington, DC, WRAMC, "Pathology of idiopathic interstitial pneumonias," WD Travis.
 34. October 2002: Baltimore, Md, Maryland Society of Pathologists, "Pathology of idiopathic interstitial pneumonias," WD Travis.
 35. November 2002: Bethesda, Md, Thoracic Pathology with Clinical and Radiologic Correlation, "Lung tumors: the WHO classification," T Franks.
 36. November 2002: Bethesda, Md, Thoracic Pathology with Clinical and Radiologic Correlation, "Primary cysts and tumors of the mediastinum," T Franks.
 37. November 2002: Bethesda, Md, Thoracic Pathology with Clinical and Radiologic Correlation, "Unusual tumors and tumor-like lesions of the lung," T Franks.
 38. November 2002: Bethesda, Md, Thoracic Pathology with Clinical and Radiologic Correlation, "Radiologic-pathologic correlation of lung lesions: unknown case seminar," T Franks.
 39. November 2002: Toronto, Ontario, University of Toronto, Royal College of Physicians, "Recurrent problems in pleuropulmonary neoplasia," WD Travis.
 40. November 2002: Toronto, Ontario, University of Toronto, Royal College of Physicians, "Interstitial lung disease: overview and diagnostic methods," WD Travis.
 41. November 2002: Toronto, Ontario, University of Toronto, Royal College of Physicians, "Microscope tutorial on unusual lung tumors," WD Travis.
 42. November 2002: Airlie Conference Center, Va, National Cancer Institute Conference on Lymphomatoid Granulomatosis Pathogenesis, Pathobiology and Treatment, "Differential diagnosis of lymphomatoid granulomatosis in the lung," WD Travis.
 43. November 2002: Bethesda, Md, Thoracic Pathology with Clinical and Radiologic Correlation, "Pathology of pulmonary vasculitis," WD Travis.
 44. November 2002: Bethesda, Md, Thoracic Pathology with Clinical and Radiologic Correlation, "Pathology of pulmonary lymphoproliferative disorders," WD Travis.
 45. December 2002: Mexico City, Mexico, Instituto Nacional de Enfermedades Respiratorias, "The ATS/ERS classification of idiopathic interstitial pneumonias," WD Travis.
 46. December 2002: Mexico City, Mexico, Instituto Nacional de Enfermedades Respiratorias, "Case discussions of interstitial pneumonias," WD Travis.
 47. December 2002: Puebla, Mexico, Decimo Curso de Actualizacion y Diagnostico en Patologia Quirurgica en Espanol e Ingles, "Idiopathic interstitial pneumonias," WD Travis.
 48. December 2002: Puebla, Mexico, Decimo Curso de Actualizacion y Diagnostico en Patologia Quirurgica en Espanol e Ingles, "The WHO classification of lung and pleural tumors," WD Travis.
 49. December 2002: Puebla, Mexico, Decimo Curso de Actualizacion y Diagnostico en Patologia Quirurgica en Espanol e Ingles, "Lymphangioleiomyomatosis and malignant mesothelioma case presentations," WD Travis.

PUBLICATIONS

Journal Articles

1. Beasley MB, Franks TJ, Galvin JR, Gochuico B, Travis WT. Acute fibrinous and organizing pneumonia: a histologic pattern of lung injury and possible variant of diffuse alveolar damage. *Arch Pathol Lab Med.* 2002;126:1064-1070.
2. Ogino S, Franks TJ, Yong M, Koss MN. Extensive squamous metaplasia with cytologic atypia in diffuse alveolar damage mimicking squamous cell carcinoma: a report of two cases. *Hum Pathol.* 2002;33:1052-1054.
3. Travis WD, King TE, Bateman ED, Lynch DA, Capron F, Center D, Colby TV, Cordier JF, DuBois RM, Galvin J, Grenier P, Hansell DM, Hunninghake G, Kitaichi M, Myers JL, Muller NL, Nagai S, Nicholson A, Raghu G, Wallaert B. ATS/ERS international consensus classification of idiopathic interstitial pneumonias. *Am J Respir Crit Care Med.* 2002;165:277-304.
4. Travis WD. Pathology of lung cancer. *Clin Chest Med.* 2002;23:65-81.
5. Kumaki F, Kawai T, Churg A, Galateau-Salle FB, Hasleton P, Henderson D, Roggli V, Travis WD, Cagle PT, Ferrans VJ. Expression of telomerase reverse transcriptase (TERT) in malignant mesotheliomas. *Am J Surg Pathol.* 2002;26:365-370.
6. Flaherty KR, Toews GB, Travis WD, Colby TV, Kazerooni EA, Gross BH, Jain A, Strawderman RL 3d, Paine R, Flint A, Lynch JP 3d, Martinez FJ. Clinical significance of histological classification of idiopathic interstitial pneumonia. *Eur Respir J.* 2002;19:275-283.
7. Fujii T, Dracheva T, Player A, Chacko S, Clifford R, Strausberg RL, Buetow K, Azumi N, Travis WD, Jen J. A preliminary transcriptome map of non-small cell lung cancer. *Cancer Res.* 2002;62:3340-3346.
8. Matsui K, Takano Y, Yu Z, Yi JE, Stetler-Stevenson WG, Travis WD, Ferrans VJ. Immunohistochemical study of endothelin-1 and matrix metalloproteinases in plexogenic pulmonary arteriopathy. *Pathol Res Pract.* 2002;198:403-412.
9. McShane D, Nicholson AG, Goldstraw P, Ladas G, Travis WD, Ramanan R, Balfour-Lynn, IM, Rosenthal M, Bush A. Inflammatory endobronchial polyps in childhood: clinical spectrum and possible link to mechanical ventilation. *Pediatr Pulmonol.* 2002;34:79-84.
10. Nicholson SA, Beasley MB, Brambilla E, Hasleton PS, Colby TV, Shimamoto Y, Sheppard M, Falk R, Travis WD. Small cell lung carcinoma (SCLC): a clinicopathologic study of 100 cases with surgical specimens. *Am J Surg Pathol.* 2002;26:1184-1197.
11. Colby TV, Tazelaar HD, Travis WD, Bergstralh EJ, Jett JR. Pathologic review of the Mayo Lung Project. Is there a case for misdiagnosis or overdiagnosis of lung carcinoma in the screened group? *Cancer.* 2002;95:2361-2365.
12. Nicholson AG, Magkou C, Snead D, Vohra HA, Sheppard MN, Goldstraw P, Beddow E, Hansell DM, Travis WD, Corrin B. Unusual sclerosing haemangiomas and sclerosing haemangioma-like lesions, and the value of TTF-1 in making the diagnosis. *Histopathology.* 2002;41:404-413.

Abstracts

1. Chou T-Y, Franks T, Travis WD. Acute interstitial pneumonia: a clinical-pathological study of thirty-three cases including relapsing and fibrosing subsets. *Mod Pathol.* 2002;15:318A.
2. He P, Miura K, Bowman ED, Welsh JA, Travis WD, Harris CC. Molecular profiling of pulmonary neuroendocrine tumors with laser capture microdissection and cDNA microarray. *Mod Pathol.* 2002;15:321A.
3. Kumaki F, Kawai T, Hiroi S, Nishio Y, Ozeki Y, Travis WD, Cagle PT. Expression of matrix metalloproteinases (MMPs) and tissue inhibitor of metalloproteinase-2 (TIMP-2) in malignant mesothelioma of the pleura. *Mod Pathol.* 2002;15:323A.
4. Nishio Y, Hiroi S, Mukai M, Jiang SX, Kameya T, Hebisawa A, Kawai T, Travis WD. Expression of survivin in 60 neuroendocrine lung tumors. *Mod Pathol.* 2002;15:326A.
5. Travis WD, Al Khoury S, Chou T-Y, Franks T. Pleuropulmonary epithelioid vascular tumors: a clinicopathologic study of 77 cases. *Mod Pathol.* 2002;15:329A.
6. Fujii T, Gillespie JW, Jen J, Travis WD. Mitochondrial D-loop mutation and AAAG microsatellite instability as molecular markers for clonality analysis: an application to sclerosing hemangioma. *Mod Pathol.* 2002;15:319A.
7. Flaherty KR, Thwaite E, Kazerooni E, Gross B, Toews GB, Colby T, Travis WD, Mumford J, Murray S, Flint A, Lynch JP 3d, Martinez FJ. Radiologic vs histologic diagnosis in UIP and

- NSIP: clinical implications. *Am J Respir Crit Care Med.* 2002;165:A138.
8. Martinez FJ, Flaherty KR, Travis WD, Colby TV, Kazerooni E, Lynch JP 3d, Toews GB. Clinical-radiographic-pathologic diagnosis in idiopathic interstitial pneumonia. *Am J Respir Crit Care Med.* 2002;165:A138.
 9. Martinez FJ, Flaherty KR, Travis WD, Colby TV, Kazerooni EA, Lynch JP, Toews GB. Pathologist inter-rater agreement improves over time in idiopathic interstitial pneumonia (IIP). *Eur Respir J.* 2002;20:62S.
 10. Flaherty KR, Travis WD, Colby TV, Toews GB, Kazerooni EA, Long Q, Murray S, Lynch JP, Martinez FJ. Clinical-radiographic-pathologic diagnosis in idiopathic interstitial pneumonia. *Eur Respir J.* 2002;20:61S.
 11. Nishio YN, Hiroi S, Ozeki Y, Mukai M, Jiang SX, Kameya T, Hebisawa A, Kawai T, Travis WD. Expression of survivin and human telomerase reverse transcriptase (hTERT) in 60 neuroendocrine tumours. *Histopathology.* 2002;41:191-192.
 12. Kawai TK, Kumaki FK, Hiroi S, Tominaga S, Nakanishi K, Torikata C, Cagle PT, Travis WD. Expression of human telomerase reverse transcriptase (hTERT) and telomeric-repeat binding factors (TRFs) in reactive mesothelial cell (RMC) and malignant mesothelioma (MM). *Histopathology.* 2002;41:32.

Book Chapter

Marcus PM, Travis WD. Lung. In: Franco EL, Rohan TE, eds. *Cancer Precursors. Epidemiology, Detection, and Prevention.* New York, NY: Springer; 2002:210-219.

Book

Travis WD, Colby TV, Koss MN, Rosado de Christensen ML, Müller NL, King TE. *Atlas of Nontumor Pathology, Non-neoplastic Disorders of the Lower Respiratory Tract.* Washington, DC: AFIP; 2002.

■ GROUP 3

SPECIAL LABORATORY MEDICINE

CELLULAR PATHOLOGY & GENETICS

HEMATOPATHOLOGY

NEUROPATHOLOGY &
OPHTHALMIC PATHOLOGY

SCIENTIFIC LABORATORIES





Timothy J. O'Leary, MD, PhD
Chair
Date of Appointment — 21 January 1987



DEPARTMENT OF CELLULAR PATHOLOGY AND GENETICS

MISSION

The Department of Cellular Pathology and Genetics provides research and innovative technologies that support the readiness of our Armed Forces and ensure top-quality, cost-effective health care for military personnel, their dependents, and the American people. By integrating interdivisional and interdepartmental research efforts, we are making a substantial contribution to the redefinition of pathology research and practice, while setting directions for research and diagnosis worldwide.

ORGANIZATION

The department is organized into 4 divisions and the Office of the Chair:

- 1. Division of Biophysics – Jeffrey T. Mason, PhD, Chief
- 2. Division of Cytopathology – Timothy J. O'Leary, MD, PhD, Chief (Acting)
- 3. Division of Molecular Pathology – Jeffery K. Taubenberger, MD, PhD, Chief
- 4. Division of Quantitative Pathology – Robert L. Becker, Jr, Col, USAF, MC

STAFF

Administrative:

Danny Urquhart, ARP, Research Administrator
Stephanie Hudson, ARP, Administrative Assistant
Myra Washington, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	34,381
Federal	369
Civilian	295
Interdepartmental	1,260
Total	36,305

This total represents an increase of 46% over the previous year.

In addition to traditional pathologic services, we provided direct patient care services through the Division of Clinical Genetics, which performed consultations at NNMC in prenatal and pediatric genetics and maternal-fetal medicine. These consultations were performed either by a clinical geneticist or a genetic counselor.

To better serve the Institute and our contributors, we expanded the array of molecular diagnostic assays and put into use new equipment that has increased case throughput and decreased

turnaround time.

The Division of Cytopathology continued to receive the bulk of its operating funds from the Office of the Air Force Surgeon General and various individual military installations. Support for the sequencing facility was provided in part by WRAIR. Reimbursements for molecular diagnostic assays were received from NNMC and WRAMC.

Impact:

To better accomplish our mission, the Department of Cellular Pathology and Genetics was engaged in 5 major developmental efforts in 2002 that involved all divisions in the department:

1. Genomics/Proteomics: The department investigated the use of serial analysis of gene expression (SAGE) to determine the mRNA expression profile of tissues and tumors. We used SAGE data to develop 2 homogeneous PCR assays that predict outcome in patients with gastrointestinal stromal tumors using paraffin-embedded archival tissues. We have developed new insights into the mechanisms of formaldehyde fixation that may be useful in improving recovery of RNA and proteins from archival tissues.
2. Magnetic Resonance Microscopy: We have used magnetic resonance microscopy to provide pathologic characterization of fetal tissue, bone, kidney, lymph node, eye, skin, and coronary artery.
3. Clinical Genetics: In collaboration with the National Naval Medical Center (NNMC), we operated a center for clinical genetics at NNMC. This is a pilot effort intended to explore the feasibility of various methods of providing clinical and laboratory genetics services to the DoD. The effort was extremely successful, providing counseling to military service members and their dependents throughout the Washington, DC area. Unfortunately, the program was abruptly cut, over the objections of the NNMC, in order to save money.
4. Emerging Infectious Diseases: We continued our work exploring the mechanisms and effects of pandemic influenza and other emerging infectious diseases, with increased emphasis on response to biothreat organisms.
5. Biotoxin Detection: We have been developing a more sensitive method for biotoxin detection that couples immunologic techniques with PCR technology.

Our department is committed to providing "routine" diagnostic services that are both extraordinary in quality and extraordinarily cost-effective. The department continues to be a leader in technology assessment, because as we develop and implement new diagnostic approaches, we carefully assess the benefit to both the patient and the Armed Forces. In this way, we assure that our research efforts result not only in published papers, but also in improved health for our service members, their families, and the American people.

EDUCATION

Presentations and Seminars: Contact hours for lectures and other formal presentations are listed in divisional reports.

Trainees:

<i>Training category</i>	<i>Number trained in 2002</i>	<i>Training days</i>
Pathology residents	7	140
Pathology fellows	4	160
Postdoctoral fellows	1	220
Graduate students	2	240
Students	6	360
TOTAL	20	1,120

The number of trainees for 2002 represents an increase of 5% over the previous year.

RESEARCH

Publications: Department staff published 26 journal articles, 16 abstracts, 1 book, 13 book chapters, and 4 other publications in 2002 (see divisional reports for complete references).

Projects: See Impact, above.

Non-AFIP/ARP Research Funds Received:

NIH	\$477,000
Military Agencies	\$185,000
Nonfederal	\$186,000
<hr/>	
Total	\$848,000

Funding represents an increase of 47% over last year.

OTHER ACCOMPLISHMENTS

Collaborators: The department's work relies on collaboration and support from within the Institute and from federal agencies and private institutions, including:

- Office of the Air Force Surgeon General
- Army Medical Research and Development Command
- National Institutes of Health
- Food and Drug Administration
- Walter Reed Army Medical Center
- Centers for Disease Control and Prevention
- Uniformed Services University of the Health Sciences

Committees:

Editorial Boards:

TJ O'Leary:

1. Applied Immunohistochemistry and Molecular Morphology
2. Pathology, Research and Practice
3. *Human Pathology*

Offices/Committee Memberships in National and International Societies:

TJ O'Leary:

1. Chair, NCCLS Subcommittee on PCR-Based Assays in Molecular Hematology
2. Member, Molecular Genetic Pathology Test Committee (a joint committee of the American Board of Pathology and the American Board of Medical Genetics)
3. Member, Genetics Working Group, CDC
4. Member, Clinical Laboratory Improvement Advisory Committee, HHS
5. Member, Professional Relationships Committee, Association for Molecular Pathology

Faculty Appointment: USUHS, Clinical Associate Professor, TJ O'Leary.

PUBLICATIONS (OFFICE OF THE CHAIR)

Journal Articles

1. Seidman JD, Sherman ME, Bell KA, Katabuchi H, O'Leary TJ, Kurman RJ. Salpingitis, salpingoliths and serous tumors of the ovaries: is there a connection? *Int J Gyn Pathol.* 2002;21:101-107.
2. Fletcher CD, Berman JJ, Corless C, Gorstein F, Lasota J, Longley BJ, Miettinen M, O'Leary TJ, Remotti H, Rubin BP, Shmookler B, Sobin LH, Weiss SW. Diagnosis of gastrointestinal stromal tumors: a consensus approach. *Hum Pathol.* 2002;33:459-465.
3. Fletcher CD, Berman JJ, Corless C, Gorstein F, Lasota J, Longley BJ, Miettinen M, O'Leary TJ, Remotti H, Rubin BP, Shmookler B, Sobin LH, Weiss SW. Diagnosis of gastrointestinal stromal tumors: a consensus approach. *Int J Surg Pathol.* 2002;10:81-89.
4. O'Leary TJ, Berman JJ. Gastrointestinal stromal tumors: answers and questions. *Hum Pathol.* 2002;33:456-458.
5. O'Leary TJ. Proficiency testing in cytopathology. *Accreditation and Quality Assurance.* 2002;7:357-361.
6. Przygodzki RM, Hubbs AE, Zhao FQ, O'Leary TJ. Primary mediastinal seminomas: evidence of single and multiple KIT mutations. *Lab Invest.* 2002;82:1369-1375.
7. Li SQ, Sheng ZM, Baili YJ, Erozan YS, O'Leary TJ. Detection of human telomerase reverse transcriptase mRNA in colonic brush specimens as an adjunct to cytopathologic diagnosis of colonic adenocarcinoma. *Acta Cytol.* 2002;46:1069-1074.

8. Zhao FQ, Sheng ZM, Tsai MM, Hubbs AE, Wang R, O'Leary TJ, Izon DJ, Taubenberger JK. Serial analysis of gene expression in murine fetal thymocyte cell lines. *Int Immunol.* 2002;14:1383-1395.

Abstracts

1. Przygodski RE, Hubbs AE, Zhao FQ, O'Leary TJ. Primary mediastinal seminomas: evidence of single and multiple KIT mutations. *Lab Invest.* 2002;82:307A.
2. Alli PM, Sheng ZM, Rosenthal DL, O'Leary TJ. Human telomerase reverse transcriptase (hTERT) detection in urine specimens processed by the AutoCyte liquid-based technique. *Acta Cytol.* 2002;46:8969.
3. Rait V, O'Leary TJ, Mason JT. Recovery of ribonuclease activity following formalin fixation. *J Mol Diagn.* 2002;4:256.
4. Rait V, Mason JT, O'Leary TJ. Formaldehyde fixation of RNA. *J Mol Diagn.* 2002;4:255A.

Book Chapters

1. O'Leary TJ. Antigens: molecular biology and structure. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.
2. O'Leary TJ. Infectious diseases. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.
3. O'Leary TJ. Cardiovascular system. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.
4. O'Leary TJ. Testes, bladder and prostate. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.
5. Lichy JH, O'Leary TJ. Breast and female genital system. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.
6. Lubensky I, O'Leary TJ. Endocrine system. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.
7. O'Leary TJ. Bones and soft tissue. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.
8. O'Leary TJ. Skin. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.
9. O'Leary TJ. Cytopathology. In: O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.

Book

O'Leary TJ, ed. *Advanced Diagnostic Methods in Pathology: Principles, Practice and Protocols*. Philadelphia, Pa: WB Saunders; 2002.

Other Publications

Altmiller DH, Enns RK, Hinkel CS, Madej RM, O'Leary TJ. *Immunoglobulin and T-Cell Receptor Gene Rearrangement Assays: Approved Guideline*. 2nd ed. NCCLS Document MM2A2. Lancaster, Pa: NCCLS; 2002.

GOALS

1. Support the DoD's readiness for joint operations.
 - Ensure the extension of department services and expertise to other DoD activities.
2. Assist in the provision of top-quality, cost-effective health care benefits.
 - Ensure that diagnostic services continue to meet the highest standards for quality assurance and control.
 - Expand and make more effective the services offered for cytodiagnosis, molecular diagnostics and forensic analysis.
 - Streamline delivery of services and make it more efficient.
 - Institute clinical genetics services in the National Capital area.
3. Assist in the development of military and civilian health care leaders.
 - Promote staff education and participation in national standards organizations.
4. Develop innovations and validate applications of new technologies.
 - Use interdisciplinary genetic and cytometric technologies to help establish a new

- taxonomy of neoplasia based on molecular features and disease outcome.
- Develop automation-based service extenders in cytology, telepathology, and molecular genetic analysis.
 - Investigate and apply magnetic resonance microscopy for the study of neoplastic and other pathologic processes.
5. Improve our understanding of health and disease.
- Apply genomic screening and molecular cytometry to help understand the initiation, heterogeneity, progression, and recurrence of cancer.
 - Apply molecular genetic techniques to understand selected infectious agents and their pathogenesis.
 - Elucidate the nature and mechanisms of physical trauma.



Jeffrey T. Mason, PhD
Chief
Date of Appointment – 1 January 1993



DIVISION OF BIOPHYSICS

MISSION

The Division of Biophysics develops knowledge and methods beneficial to pathology and military readiness through application of the principles and instrumentation of biophysical chemistry.

ORGANIZATION

The division is organized into the Biophysics Laboratory and the Magnetic Resonance Facility.

STAFF

Scientific:

Jeffrey T. Mason, PhD, Chief
Kimberlee Potter, PhD, Scientific Director of Magnetic Resonance Facility, ARP
Robert E. Cunningham, MS, Research Biologist
Vladimir K. Rait, PhD, Research Associate, ARP
Lixin Xu, MD, PhD, Research Associate, ARP

Administrative:

Frank A. Jones, HM1, USN, Administrative Assistant

DIAGNOSTIC CONSULTATION

Cases	Completed
Interdepartmental	39
Total	39

The above cases required the following types of procedures and analyses:

- In situ hybridization for JC virus: 7
- Magnetic resonance microscopic imaging: 32

Impact:

The Magnetic Resonance Facility provides NMR spectroscopic and magnetic resonance microscopic imaging services to the AFIP and other military and civilian collaborators.

Magnetic resonance microscopy techniques in cardiovascular, pediatric, forensic, otologic, ophthalmic, and tissue culture imaging have been developed and used in cases during the past year. The division is the sole source for JC virus testing for the Institute.

Quality Assurance:

FA Jones:

1. Unit prevention leader, US Army Drug Prevention and Awareness Program
2. Equal Opportunity Representative
3. Assistant Command Fitness Coordinator

EDUCATION

Presentations and Seminars: Division staff gave 9 presentations in 2002. Complete dates and titles are listed at the end of this report.

Courses: Division staff participated in 1 non-AFIP course in 2002.

Trainees:

1. Research fellow, Cardiac Pathology, AFIP. Application of quantitative NMR microscopy to atherosclerotic plaque characterization. 30 trainee-days.
2. Visiting research scientist, OAFME, AFIP. Application of NMR microscopy in forensic medicine. 20 trainee-days.
3. Summer intern, Rochester Institute of Technology. Basic NMR microscopy and image analysis techniques. 60 trainee-days.
4. Summer intern, Rochester Institute of Technology. Basic cell culture and histology techniques. 60 trainee-days.

RESEARCH

Publications: Division staff published 3 journal articles and 5 abstracts, and submitted 1 patent application in 2002. Complete data are listed at the end of this report.

Projects:

1. Characterization of arterial morphology and atherosclerotic plaques by NMR microscopy.
2. Application of NMR microscopy to studies of pattern injury in forensic medicine.
3. Visualization of ocular morphology and retinal hemorrhage by NMR microscopy.
4. Development and evaluation of tissue-engineered bone constructs by NMR microscopy.
5. Study of cartilage and bone development in 3-dimensional tissue culture models.
6. Retrospective studies of apoptosis and gene expression in gastrointestinal stromal/smooth muscle tumors using tissue microarrays.
7. Study of the chemistry of formaldehyde fixation and improved techniques for recovery of protein antigenicity and RNA from formalin-fixed tissue.
8. Development of methods for depositing whole intact nuclei into high-density arrays for high-throughput genetic screening of archival tissue.
9. Development of ultrahigh-sensitivity assays for biological warfare toxins such as botulinum and tetanus toxins.

Research Funds Received:

1. Noninvasive evaluation of tissue-engineered bone implants in vitro by proton NMR microscopy. NIH, \$50,000.
2. Formalin fixation and recovery of RNA and protein. NIH, \$100,000.
3. Magnetic resonance imaging of the vulnerable plaque. CIMIT, \$28,000.
4. A field-deployable ultrasensitive assay system for biological toxins using immunoliposome-DNA amplification hybrids. USAMRMC, \$126,880.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

Dr. Newell Washburn, Polymer Division, National Institutes of Standards and Technology.

Civilian:

1. Dr. Michael M. Batenjany, Biomira USA.
2. Dr. Naomi Eidelman, American Dental Association.

3. Dr. Darlene Ketten, Harvard Medical School.
4. Dr. William Landis, Northwestern Ohio Universities College of Medicine.
5. Dr. Fred Silver, Robert Wood Johnson Medical School.

International:

1. Dr. Paul Anderson, Queen Mary College, University of London, England.
2. Dr. Michael Thali, Institute of Forensic Medicine, University of Bern, Switzerland.

Interdepartmental:

1. Dr. Breno Pessanha, Department of Cardiovascular Pathology.
2. Dr. Michael Thali, OAFME.
3. Dr. Ian McLean, Ophthalmic Pathology.
4. Dr. Isabell Sesterhenn, Genitourinary Pathology.
5. Dr. Eric Suarez, Pediatric Pathology.
6. Dr. Donald Sweet, Orthopaedic Pathology.
7. Dr. Renu Virmani, Cardiovascular Pathology.

Committees:

Manuscripts Reviewed:

1. *Biophysical Journal* (1)
2. *Biochimica et Biophysica Acta* (1)

Offices/Committee Memberships in National or International Societies:

1. Executive Committee for the International Conference on Magnetic Resonance Microscopy, JT Mason.
2. Reviewer, Oral Biology and Medicine Subcommittee 2 and Special Emphasis Study Section 5, NIH, JT Mason.

Continuing Education: Division staff attended the following training course in 2002, for 6 training days: Basic WAVE System and DHPLC Operation Course, Transgenomic, Inc., Gaithersburg, Md.

PRESENTATIONS

1. January 2002: Washington, DC, AFIP, "Magnetic resonance imaging," JT Mason.
2. February 2002: Washington, DC, AFIP, "Characterization of intimal changes in early coronary lesions by MRM," JT Mason.
3. April 2002: Washington, DC, AFIP, "Formalin fixation and the recovery of proteins," JT Mason.
4. April 2002: Washington, DC, George Washington University, "Characterization of intimal changes in early coronary lesions by MRM," JT Mason.
5. October 2002: Bruker Mid-Atlantic User's Meeting, "Magnetic resonance-assisted pathology," JT Mason.
6. October 2002: Foundation Meeting on Tissue and Genetic Engineering for the Treatment of Arthritic Diseases, "Biomaterials for tissue engineering," JT Mason.
7. October 2002: American Academy of Forensic Sciences, "Mapping retinal hemorrhages with magnetic resonance microscopy," JT Mason.
8. November 2002: Pittsburgh, Pa, McGowan Institute of Regenerative Medicine, "Evaluation of tissue-engineered bone implants by proton NMR microscopy," JT Mason.
9. December 2002: Washington, DC, National Museum of Health and Medicine, "Magnetic resonance imaging," JT Mason.

PUBLICATIONS

Journal Articles

1. Potter K. Magnetic resonance microscopy approaches to molecular imaging: sensitivity versus specificity. *J Cell Biochem Suppl.* 2002;39:147-153.
2. Potter K, Leapman RD, Bassar PJ, Landis WJ. Cartilage calcification studies by proton NMR microscopy. *J Bone Miner Res.* 2002;17:652-660.
3. Xu L, Yang L, Hashimoto K, Anderson M, Kohlhagen G, Pommier Y, D'Arpa P. Characterization of BTBD1 and BTBD2, two similar BTB-domain containing Kelch-like proteins that interact with topoisomerase I. *BMC Genomics.* 2002;3:1-7.

Abstracts

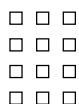
1. Rait VK, Mason JT, O'Leary TJ. Formaldehyde fixation of RNA. *J Mol Diagn.* 2002;4:255A.
2. Rait VK, O'Leary TJ, Mason JT. Recovery of ribonuclease activity following formalin fixation. *J Mol Diagn.* 2002;4:356A.
3. Potter K, Washburn NR, Anderson P. Evaluation of tissue-engineered bone constructs by proton NMR microscopy. *Proc Int Soc Magn Reson Med.* 2002;10:497.
4. Thali MJ, Yen K, Dirnhofer R, Potter K. MR microscopy in forensic medicine: analysis of electric pattern injury in skin. *Proc Int Soc Magn Reson Med.* 2002;10:498.
5. Pessanha B, Potter K, Kolodgie F, Burke A, Farb A, Mont E, Virmani R. Characterization of early intimal changes in early coronary lesions. *Proc Int Soc Magn Reson Med.* 2002;10:1572.

Other Publications

Provisional Patent Application: "Immunoliposome-nucleic acid amplification assay method."
Submitted December 2002 to the US Army Research Acquisition Activity, Ft. Detrick, Md.



Timothy J. O'Leary, MD, PhD
Acting Chief
Date of Appointment – 1 August 2002



DIVISION OF CYTOPATHOLOGY

MISSION

The Division of Cytopathology provides consultation, primary diagnosis, education, and research in diagnostic cytopathology.

ORGANIZATION

1. Consultation Service
2. Armed Forces Cytocenter

STAFF**Medical:**

Timothy J. O'Leary, MD, PhD, Acting Chief
(D) Indira Wesley, COL, MC, USA, Division Chief
Sally-Beth Buckner, SCT(ASCP), IAC, Cytotechnologist
Izzat Ali, CT(ASCP), IAC, Cytotechnologist
Dominador Devera, CT(ASCP), Cytotechnologist
Yiquin Feng, CT(ASCP), Cytotechnologist
(A) Lisa Mason, CT(ASCP), Cytotechnologist

Administrative:

Nawera Haque, Accessioning Clerk
Xin-Yan Zhao, Cytopreparatory Technician and Accessioning Clerk

DIAGNOSTIC CONSULTATION

Cases	Completed
Consultation Service	1,198
Armed Forces Cytocenter	33,533
Total	34,731

Approximately 25% of the consultation service cases required immunohistochemical staining. The Air Force Cytocenter caseload of 33,533 contributes directly to military readiness in that a large proportion of these smears are from active duty women.

Quality Assurance: The division participated in 4 proficiency testing exercises and completed the CAP inspection with no deficiencies.

Trainees: The division provided training for 2 fellows in 2002: Robert Pu, MD, and Angelique Wolfe-Levi, MD. Former fellows now occupy academic positions at several prestigious universities, including Columbia and Johns Hopkins.

RESEARCH

Publications: Division staff published 1 refereed journal article in 2002.

PUBLICATIONS

Li SQ, Sheng ZM, Baili Y, Erozan YS, O’Leary TJ. Detection of hTERT mRNA in colonic brush specimens as an adjunct to cytopathologic diagnosis of colonic adenocarcinoma. *Acta Cytol.* 2002;46:1069-1074.

GOALS

- 1. Increase consultation volume by 10%.
- 2. Increase Pap smear screening volume by 10% to 20%.



Charles J. Macri, CAPT, MC, USN
Chief
Date of Appointment – 1 May 2001



DIVISION OF CLINICAL GENETICS

MISSION

The goals of the Division of Clinical Genetics are to develop a clinical genetics service in the National Capital area, identify areas of need for genetic services within the DoD, and utilize technology to improve return on investment in the provision of genetic services.

STAFF

- Medical:**
- Charles J. Macri, CAPT, MC, USN, Medical Geneticist
 - Jamie Durkovic, MS, Genetic Counselor
 - Shannon Wright, MS, Genetic Counselor

DIAGNOSTIC CONSULTATION

Counseling was offered to approximately 1,000 patients in the National Capital region.

PUBLICATIONS

Gergen PJ, Macri CJ, Murrillo S. The need for sickle cell screening among pediatric latino immigrants. *Arch Pediatr Adolesc Med.* 2002;156:729.



Jeffery K. Taubenberger, MD, PhD
Chief
Date of Appointment – 1 January 1994



DIVISION OF MOLECULAR PATHOLOGY

MISSION

The Division of Molecular Pathology provides consultation, research, and education in molecular biology and molecular pathology. We develop new techniques for consultative diagnostic molecular pathology and molecular medicine, explore new areas of molecular biology and determine which may be useful for current or future development at the Institute, and collaborate with other departments by performing research using molecular techniques.

ORGANIZATION

The division is organized into 3 laboratories:

1. Molecular Diagnostics Laboratory – Jack H. Lichy, MD, PhD, Director
2. DNA Core Sequencing Laboratory – Alan Hubbs, PhD, Director
3. Research Laboratory – Jeffery K. Taubenberger, MD, PhD, Chief

STAFF

Jeffery K. Taubenberger, MD, PhD, Staff Pathologist and Division Chief
 Karen Bijwaard, MS, Medical Technologist
 Jessica Dement, BS, ARP, Medical Technologist
 Thomas G. Fanning, PhD, Principal Investigator
 (A) Raina Lourens, BS, ARP, Research Biologist
 Thomas Janczewski, BS, ARP, Research Biologist
 Daisy Johnson, SGT, USA, Medical Technologist
 Amy E. Krafft, PhD, MT(ASCP), Medical Technologist
 Qi Liang, PhD, ARP, Research Biologist
 Jack H. Lichy, MD, PhD, Staff Pathologist and Director, Molecular Diagnostics Laboratory
 (D) Andrew N. Loudon, BS, ARP, Graduate Student
 Sherman McCall, LTC, MC, USA, Staff Pathologist
 Elizabeth Onuoha, BS, ARP, DNA Sequencing Technologist
 Pin-Yu Perera, PhD, ARP, Research Biologist
 Jean Przybocki, BS, Medical Technologist
 Ronald Przygodzki, MD, ARP, Staff Pathologist
 Ann H. Reid, MA, Research Biologist
 Zong-Mei Sheng, MD, PhD, ARP, Research Biologist
 Mark M. Tsai, MS, Research Biologist
 Ruxie Wang, PhD, ARP, Research Biologist

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	668
Federal	6
VA	10
Civilian	72
Interdepartmental	671
Total	1,428

The Molecular Diagnostics Laboratory received 1,428 cases in consultation in 2002, a 43% increase from 2001. Of these, 47% were primary molecular genetic consults from the US military. Another 47% were received from 22 CAP departments, and the remainder from direct consults from other institutions. On average, 2.3 tests were requested per case, resulting in 3,344 separate molecular pathology assays completed in 2002.

The following tests were offered for clinical or research diagnosis on submitted fixed tissue:

- Hematopathology: Immunoglobulin heavy chain rearrangement; T cell receptor beta gene rearrangement; T cell receptor gamma gene rearrangement; t(14;18) translocation, major and minor breakpoints; t(9;22) translocation, ALL and CML types; t(11;14) translocation; t(2;5) translocation, and quantitative PRAD1 over-expression.
- Solid tumors: t(11;22) EWS/FLI-1, t(11;22) EWS/WT1; t(X;18), t(1;13) and t(2;13) translocations.
- Infectious diseases: *Coxiella burnetti*, Epstein-Barr virus, herpes simplex virus 1 and 2, human herpes virus 8, human papillomavirus, animal papillomaviruses, enterovirus, adenovirus, hepatitis C virus, morbilliviruses (human measles virus, canine distemper virus, dolphin morbillivirus, porpoise morbillivirus), *Pneumocystis carinii*, *Toxoplasma gondii*, varicella zoster virus.
- Genetic tests: Hemochromatosis, Factor V (Leiden) and prothrombin mutation assays, cystic fibrosis mutation screening.
- Mitochondrial gene mutations: This panel of tests includes assays for the following point mutations, listed with their associated disease entities: 8344G (MERRF); 8356C (MERRF); 3243G (MELAS); 3271C or del (MELAS); 8993G or C (NARP); 11778A (LHON); 15257A (LHON); 3460A (LHON); and 14484C (LHON). In addition, a genomic Southern blot is performed to detect mitochondrial deletions associated with Kearns-Sayre syndrome.

Dr. Lichy, Dr. Taubenberger, and Dr. Przygodzki participated in sign-out of molecular genetic and surgical pathology cases.

DNA Core sequencing laboratory: In 2002, Dr. Hubbs, and Elizabeth Onuoha generated DNA sequences from 25,000 samples. This represents more than 25% growth over 2001.

Quality Assurance: The laboratory received 17 samples in CAP sample exchange programs in molecular oncology, infectious disease, and genetics in 2002.

EDUCATION

Presentations and Seminars: Division staff gave 58 presentations in 2002. This total includes the Molecular Pathology Division Journal Club, which met 39 times in 2002.

Courses: Division staff participated in 1 non-AFIP course and 1 AFIP course in 2002.

Trainees: Division staff trained 11 individuals for a total of 380 training days. Trainees by category are listed below:

<i>Trainee category</i> _____	<i>No. trained in 2002</i> _____	<i>Training days</i>
Pathology residents	7	140
Students	4	240
Total	11	380

Pathology residents from the combined Walter Reed/Bethesda residency program and from the Department of Pathology at Howard University continued to receive one-month rotations in molecular genetic pathology. Dr. Lichy, Dr. Taubenberger, and Dr. Fanning each mentored summer students on a research project.

CERTIFICATION

- Karen Bijwaard was recertified as a Certified Laboratory Specialist in Molecular Biology (CLSp[MB]), National Credentialing Agency for Laboratory Personnel.
- Karen Bijwaard was certified as a Basic Life Support Instructor, Military Training Network.
- LTC McCall was recertified in Advanced Trauma Life Support, and certified as an instructor for Advanced Trauma Life Support, American College of Surgeons.

RESEARCH

Publications: Division staff published 15 refereed journal articles, 4 book chapters, 2 reports, and 10 abstracts in 2002. Complete references are listed at the end of this report.

Projects: Division staff were principal investigators on 16 AFIP research protocols, open as of December 31, 2002:

1. Analysis of early 20th century avian viruses. Principal Investigator (PI): TG Fanning.
2. Analysis of squamous cell and adenocarcinomatous epithelium within pleomorphic carcinoma of the lung. PI: R Przygodzki.
3. Comparison of 3 ST5 gene products in tumors. PI: Q Liang.
4. Development and validation of a clinical assay for t(11;22)(q24;q12) in Ewing's sarcomas and peripheral primitive neuroectodermal tumors. PI: K Bijwaard.
5. Diagnosis of variola infection in archival tissues by PCR. PI: JK Taubenberger.
6. Experimental measurements of blast trauma. PI: S McCall.
7. Glandular neoplasia of lung: a clinicopathologic study of 100 cases. PI: R Przygodzki.
8. HFE analysis of histologically suspect hemochromatosis cases. PI: R Przygodzki.
9. Human ST5 gene in signal transduction and carcinogenesis. PI: JH Lichy.
10. Identification of influenza strains by molecular genetic techniques. PI: JK Taubenberger.
11. Identification of the source of the 1918 influenza A strain by RT-PCR. PI: JK Taubenberger.
12. Monitoring the response to cancer vaccines. PI: JH Lichy.
13. Serial analysis of gene expression (SAGE) in developing B lymphocyte precursors. PI: JK Taubenberger.
14. Serial analysis of gene expression (SAGE). PI: ZM Sheng.
15. Serial analysis of gene expression. PI: JK Taubenberger.
16. Tumor susceptibility markers and their consequent mutational alterations in hepatic vascular neoplasia. PI: R Przygodzki.

Non-AFIP Research Funds Received:

1. The human ST5 gene in signal transduction and cancer — \$125,000, NIH, JH Lichy.
2. Experimental measurements of blast trauma — \$3,000, Woods Hole Oceanographic Institute, S McCall.
3. BDNF expression in protective doses of excitatory neurotoxins — \$5,000, USUHS, S McCall.
4. Genetic characterization of the 1918 'Spanish' influenza virus — \$175,000, NIH, JK Taubenberger.
5. Surveillance for influenza and adenoviruses from fixed nasal swabs — \$30,000, GEIS/WRAIR, JK Taubenberger.

OTHER ACCOMPLISHMENTS**Collaborators:****Military/Federal:**

1. Tony Beugelsdijk, PhD, Los Alamos National Laboratory, Los Alamos, NM.
2. Nancy Cox, PhD, CDC, Atlanta, Ga.
3. James Dean, PhD, Smithsonian Institution, Museum of Natural History, Washington, DC.
4. Joseph Esposito, PhD, CDC, Atlanta, Ga.
5. David Gillespie, MD, Department of Cardiovascular Surgery, WRAMC, Washington, DC.
6. J. Silvio Gutkind, PhD, NIH, Bethesda, Md.
7. Kevin Holmes, PhD, National Institute of Allergy and Infectious Diseases, NIH, Bethesda, Md.
8. Peter Jahrling, PhD, United States Army Medical Research Institute for Infectious Diseases, Ft. Detrick, Frederick, Md.
9. Ann Marini, MD, PhD, Department of Neurology, USUHS, Bethesda, Md.
10. Constance T. Noguchi, PhD, Laboratory of Chemical Biology, NIH, Bethesda, Md.
11. George Peoples, MD, Department of Surgery, WRAMC, Washington, DC.
12. Steve Rick, PhD, NCI, Frederick, Md.

13. David Swayne, DVM, PhD, US Department of Agriculture, Athens, Ga.
14. Sherif Zaki, MD, CDC, Atlanta, Ga.

Civilian:

1. Patty Alli, MD, Department of Pathology, Johns Hopkins University, Baltimore, Md.
2. Alfredo Esparza, MD, Department of Pathology, Rhode Island Hospital, Providence, RI.
3. Sydney D. Finkelstein, MD, Department of Pathology, University of Pittsburgh Medical Center, Pittsburgh, Pa.
4. David Izon, PhD, University of Pennsylvania, Philadelphia, Pa.
5. Darlene Ketten, PhD, Woods Hole Oceanographic Institute, Woods Hole, Mass.
6. Kenneth W. Kinzler, MD, Johns Hopkins Oncology Center, Molecular Genetics Laboratory, Baltimore, Md.
7. Michael N. Koss, MD, Department of Pathology, University of Southern California, Los Angeles, Calif.
8. Scott Layne, MD, University of California at Los Angeles.
9. Sherry Li, MD, Department of Pathology, Columbia University College of Physicians and Surgeons, New York, NY.
10. Paul McGovern, MD, University of Pennsylvania, Philadelphia, Pa.
11. Peter Palese, PhD, Department of Microbiology, Mt. Sinai School of Medicine, New York, NY.
12. Susan Ropp, PhD, South Dakota State University, Brookings, SD.
13. Adolfo Garcia-Sastre, PhD, Department of Microbiology, Mt. Sinai School of Medicine, New York, NY.
14. Xio Shu, PhD, University of South Carolina Medical School.
15. Don B. Singer, MD, Department of Pathology, Women's and Infants' Hospital, Brown University, Providence, RI.
16. Richard Slemmons, DVM, PhD, Department of Pathology, Ohio State University, School of Veterinary Medicine, Columbus, OH.
17. Cheng-Wang Daniel Wu, MD, Department of Pathology, New York University, New York, NY.

International:

1. Gilda Alves, PhD, National Cancer Institute, Rio de Janeiro, Brazil.
2. Ian Brown, PhD, Weybridge Veterinary Laboratories Agency, Weybridge, Addlestone, England.
3. Tomayoshi Hayashi, MD, PhD, Department of Pathology, Nagasaki University Hospital, Nagasaki, Japan.
4. Stephan Krus, MD, PhD, Department of Pathology, Warsaw Medical Academy, Warsaw, Poland.
5. John Oxford, PhD, London Hospital, London, England.
6. Roman Pykalo, MD, PhD, Department of Pathology, Warsaw Medical Academy, Warsaw, Poland.

Interdepartmental:

1. Department of Cardiovascular Pathology: research on role of infectious agents in atherosclerotic plaques and cardiomyopathies.
2. Department of Hematopathology: molecular genetic changes in lymphomas.
3. Department of Hepatic and Gastrointestinal Pathology, Division of Hepatic Pathology: RAS in vascular liver tumors, analysis of gene rearrangement status in inflammatory liver disease.
4. Department of Endocrine and Otorhinolaryngic/Head-Neck Pathology: molecular changes in pancreatic tumors and thyroid lymphomas.
5. Department of Pulmonary and Mediastinal Pathology: molecular genetic changes in lung tumors.
6. Department of Soft Tissue Pathology: KIT mutations in gastrointestinal tumors, and evaluation of t(X;18) translocations in synovial sarcomas.
7. Department of Veterinary Pathology: molecular characterization of marine mammal morbilliviruses and papillomaviruses.

Honors: Dr. Taubenberger was selected by the National Academy of Sciences to serve as a member of the Biological Panel, Committee on Science and Technology for Countering Terrorism.

Committees:

Manuscripts Reviewed: Members of the division reviewed 26 articles for professional journals in 2002:

1. *American Journal of Pathology* (4)
2. *Cancer* (4)
3. *Cancer Research* (4)
4. *International Journal of Cancer* (1)
5. *Biotechniques* (1)
6. *Journal of Virology* (1)
7. *New England Journal of Medicine* (2)
8. *Oncogene* (1)
9. *Science* (2)
10. *Virology* (2)
11. *Clinical Chemistry* (1)
12. *Journal of Molecular Diagnostics* (2)
13. *Molecular Diagnosis* (1)

Offices/Committee Memberships in National and International Societies:

1. Member, Training and Education Committee, Association of Molecular Pathology, JH Lichy.
2. Member, Gene Rearrangement Sample Exchange Organizational Committee, Association for Molecular Pathology, K Bijwaard.

Faculty Appointments:

1. Howard University Medical School, Departments of Pathology and Genetics, Adjunct Faculty; Graduate Advisor (one PhD student), JH Lichy.
2. Howard University Medical School, Departments of Pathology and Genetics, Adjunct Faculty, JK Taubenberger.
3. Virginia Commonwealth University, Medical College of Virginia, Department of Anatomy, Adjunct Faculty, JK Taubenberger.
4. USUHS, Adjunct Assistant Professor of Pathology, S McCall.

Professional Services:

1. Northern Virginia Science and Engineering Regional Fair, March 2002, Microbiology Chair, AE Krafft.
2. Yorktown High School Science Fair, Arlington, Va, February 2002, Microbiology Team Leader, AE Krafft.
3. National Cancer Institute, NIH, Laboratory of Pathology, Consulting Pathologist, JK Taubenberger.

Continuing Education: Division staff attended training courses at the following venues in 2002:

1. AFIP Clinical Staff Conferences.
2. AFIP Molecular Pathology Division Seminar Series.
3. 8th Annual Association for Molecular Pathology Annual Meeting, Dallas, Tex.

Official Trips (funding agency in parentheses):

1. March 2002, International Conference on Emerging Infectious Diseases, AH Reid (ICEID).
2. April 2002, 5th International Symposium on Avian Influenza, University of Georgia, Athens, Ga, JK Taubenberger, AH Reid.
3. June 2002, Royal London Hospital, London, England, JK Taubenberger.
4. July 2002, Department of Ecology, Princeton University, Princeton, NJ, JK Taubenberger, AH Reid, T Janczewski.
5. September 2002, St. Jude Children's Hospital, Memphis, Tenn, JK Taubenberger.
6. October 2002, Department of Microbiology and Immunology, University of Wisconsin,

Madison, Wis, JK Taubenberger.

7. November 2002, American Philosophical Society Annual Meeting, Philadelphia, Pa, JK Taubenberger.
8. November 2002, Association of Molecular Pathology Annual Meeting, Dallas, Tex, JH Lichy, K Bijwaard.

Public Affairs Reports: Research on the 1918 influenza epidemic and on influenza surveillance continued to generate national and international coverage in the following media:

Scientific and Medical Press:

- *Science Magazine*
- *Nature*
- *JAMA*
- *Science News*
- *New Scientist*

Newspapers:

- *The Washington Post*
- *The Washington Times*
- *The New York Times*
- *USA Today*
- *The Los Angeles Times*

Wire Services:

- *Reuters*
- *Associated Press*
- *Knight-Ridder News Service*

Magazines:

- *National Geographic*
- *US News & World Report*

Television:

- Documentary films were broadcast on German TV and Netherlands TV.

Radio:

- National Public Radio, "All Things Considered"

PRESENTATIONS

1. February 2002: Bethesda, Md, NIH, FAES Course, "Introduction to molecular pathology," JH Lichy.
2. March 2002: Athens, Ga, 5th International Symposium on Avian Influenza, Plenary Talk, "Genetic analysis of the 1918 influenza virus," AH Reid.
3. April 2002: Washington, DC, AFIP Pathology Review Course, "Molecular pathology of infectious disease and cancer," JH Lichy.
4. April 2002: Athens, Ga, 5th International Symposium on Avian Influenza, Keynote Address, "Fixed and frozen flu: lessons for the future," JK Taubenberger.
5. April 2002: Atlanta, Ga, International Conference on Emerging Infectious Diseases (ICEID), Plenary Talk, "Genetic analysis of the 1918 influenza virus," AH Reid.
6. April 2002: Washington, DC, Howard University, Graduate Genetics Course, "Mechanisms and disorders of signal transduction," JH Lichy.
7. May 2002: Bethesda, Md, Department of Public Health, USUHS, "The 1918 influenza and the formation of pandemic influenza strains," JK Taubenberger.
8. May 2002: Washington, DC, USMCI Lecture, "Dissecting cancer-causing signaling pathways," JH Lichy.
9. May 2002: Washington, DC, AFIP Staff Conference, "Gene expression in developing T cells," R Wang.
10. June 2002: Washington, DC, George Washington Medical Center, "Molecular pathology," JH Lichy.
11. June 2002: London, England, Royal London Hospital, Special Lecture for the Opening of the Virology Laboratories, "The 1918 'Spanish' influenza and lessons for the future," JK

Taubenberger.

12. July 2002: Princeton, NJ, Princeton University, Department of Ecology, "Genetic characterization of the 1918 influenza virus," JK Taubenberger.
13. August 2002: Washington, DC, AFIP, Lecture to High School Students, "Molecular diagnostics," JH Lichy.
14. September 2002: Memphis, Tenn, St. Jude Children's Hospital, "Genetic characterization of the 1918 influenza virus and lessons for the future," JK Taubenberger.
15. October 2002: Madison, Wis, University of Wisconsin, Department of Microbiology and Immunology, "Origin and virulence of the 1918 influenza virus: an update," JK Taubenberger.
16. October 2002: Madison, Wis, University of Wisconsin, Department of Microbiology and Immunology, "The search for the 1918 'Spanish' influenza virus and lessons for the future," JK Taubenberger.
17. November 2002: Philadelphia, Pa, American Philosophical Society Annual Meeting, "The search for the 1918 'Spanish' influenza virus and lessons for the future," JK Taubenberger.
18. December 2002: Bethesda, Md, NNMC, "Molecular diagnostics," JH Lichy.
19. December 2002: Bethesda, Md, NIH STEP Conference Seminar, "The search for the 1918 'Spanish' influenza and lessons for the future," JK Taubenberger.

PUBLICATIONS

Journal Articles

1. Bagg A, Brazier RM, Arber DA, Bijwaard KE, Chu AY. Immunoglobulin heavy chain gene analysis in lymphomas: a multi-center study demonstrating the heterogeneity of performance of polymerase chain reaction assays. *J Mol Diagn.* 2002;4:81-89.
2. Bijwaard KE, Fetsch JF, Przygodzki R, Taubenberger JK, Lichy JH. Detection of SYT-SSX fusion transcripts in archival synovial sarcomas by real-time reverse transcriptase-polymerase chain reaction. *J Mol Diagn.* 2002;4:59-64.
3. Drabick JJ, Davis BJ, Lichy JH, Flynn J, Byrd JC. Human herpesvirus 8 genome is not found in whole bone marrow core biopsy specimens of patients with plasma cell dyscrasias. *Ann Hematol.* 2002;81:304-307.
4. Fanning TG, Slemons RD, Reid AH, Janczewski TA, Dean J, Taubenberger JK. 1917 avian influenza sequences suggest the 1918 pandemic virus did not acquire its hemagglutinin directly from birds. *J Virol.* 2002;76:7860-7862.
5. Geiss GK, Salvatore M, Tumpey TM, Carter VS, Wang X, Basler CF, Taubenberger JK, Bumgarner RE, Palese P, Katze MG, García-Sastre A. Cellular transcriptional profiling in influenza A virus infected lung epithelial cells: the role of the nonstructural ns1 protein in the evasion of the host innate defense and its potential contribution to pandemic influenza. *Proc Nat Acad Sci.* 2002;99:10736-10741.
6. Li SQ, Sheng ZM, Baili Y, Erozan YS, O'Leary TJ. Detection of hTERT mRNA in colonic brush specimens as an adjunct to cytopathologic diagnosis of colonic adenocarcinoma. *Acta Cytol.* 2002;46:1069-1074.
7. Liang Q, Lichy JH. Molecular testing for hereditary hemochromatosis. *Expert Rev Mol Diagn.* 2002;2:49-59.
8. McGovern PC, Chambers S, Blumberg EA, Acker MA, Tiwari S, Taubenberger JK, Carboni A, Twomey C, Loh E. Successful explantation of a ventricular assist device following fulminant influenza type A-associated myocarditis. *J Heart Lung Transplant.* 2002;21:290-293.
9. Powell CS, Blaylock ML, Wang R, Hunter HL, Johanning GL, Nagy TR. Effects of energy expenditure and Ucp1 on photoperiod-induced weight gain in collard lemmings. *Obes Res.* 2002;10:541-550.
10. Przygodzki RM, Hubbs AE, Zhao FQ, O'Leary TJ. Primary mediastinal seminomas: evidence of single and multiple KIT mutations. *Lab Invest.* 2002;82:1369-1375.
11. Reid AH, Fanning TG, Janczewski TA, McCall S, Taubenberger JK. Characterization of the 1918 "Spanish" influenza virus matrix gene segment. *J Virol.* 2002;76:10717-10723.
12. Toshchakov V, Jones BW, Perera PY, Thomas K, Cody MJ, Zhang S, Williams BR, Major J, Hamilton TA, Fenton MJ, Vogel SN. TLR4, but not TLR2, mediates IFN-beta-induced STAT1alpha/beta-dependent gene expression in macrophages. *Nat Immunol.* 2002;3:392-398.

13. Tumpey TM, García-Sastre A, Mikulasova A, Taubenberger JK, Swayne DE, Palese P, Basler CF. Existing antivirals are effective against influenza viruses with genes from the 1918 pandemic virus. *Proc Nat Acad Sci.* 2002;99:13849-13854.
14. Yu X, Shacka JJ, Eells JB, Suarez-Quian C, Przygodzki RM, Beleslin-Cokic B, Lin CS, Nikodem VM, Hempstead B, Flanders KC, Costantini F, Noguchi CT. Erythropoietin receptor signalling is required for normal brain development. *Development.* 2002;129:505-516.
15. Zhao F-Q, Sheng Z-M, Tsai MM, Hubbs AE, Wang R, Izon DJ, Taubenberger JK. Serial analysis of gene expression in murine fetal thymocyte cell lines. *Int Immunol.* 2002;14:1383-1395.

Abstracts

1. Alli PM, Sheng ZM, Rosenthal DL, O'Leary TJ. Human telomerase reverse transcriptase (hTERT) detection in urine specimens processed by the AutoCyte liquid-based technique. American Society of Cytology 50th Annual Meeting. November 2002.
2. Chu AY, Pressler M, Braziel RM, Arber DA, Bijwaard KE, Bagg A. Immunoglobulin heavy chain gene analysis in lymphomas: a multicenter study demonstrating the heterogeneity of performance of polymerase chain reaction assays. *Mod Pathol.* 2002;15:235A-236A.
3. Hawksworth AW, Russell KL, McCall SA, Krafft AE, Irvine MD, Conolly JL, Ryan MA, Gaydos JC, Taubenberger JK. Evaluation of PCR tests for influenza and adenovirus using ambient temperature specimens. ICAAC. September 2002.
4. Ketten DR, Cramer S, O'Malley J, Fischer I, Reidenberg J, Naples V, McCall S, Craig J, Tussing R, Rye K, Lewis W, Potter C, Ososky J, Merigo C. Experimental measures of blast trauma in marine mammals. 13th Biennial Conference on the Biology of Marine Mammals. Society for Marine Mammalogy. January 2002.
5. Ketten DR, O'Malley J, Mead J, Sandberg G, McCall S. Beaked whale auditory systems: structure, specializations, and correlates of trauma. 13th Biennial Conference on the Biology of Marine Mammals. Society for Marine Mammalogy. January 2002.
6. Lichy JH, Hu F, Przybocki J, Bijwaard KE, Dement J. An approach to positive controls for cystic fibrosis mutation detection. *J Mol Diagn.* 2002;4:255.
7. Marini A, Banaudha K, McCall S, Zhu D, Lipsky R. Alpha-amino-3-hydroxy-5-methyl-4-isoxazoleproionic-acid mediated neuroprotection requires TRKB receptor activation. American Society for Neurochemistry Meeting. June 2002.
8. Reid AH, Fanning TG, Slemons RD, Janczewski TA, Dean J, Taubenberger JK. Relationship of pre-1918 avian influenza HA and NP sequences to subsequent avian influenza strains. 5th International Symposium on Avian Influenza. Athens, Ga. April 2002.
9. Russell KL, McCall SA, Krafft AE, Hawksworth AW, Irvine MD, Conolly JL, Ryan MA, Gaydos JC, Taubenberger JK. Ambient temperature specimen collection: evaluation of PCR tests for influenza and adenovirus. 5th International Symposium on Respiratory Viral Infections. Dominican Republic. December 2002.
10. Tumpey TM, Mikulasova A, García-Sastre A, Taubenberger JK, Swayne DE, Palese P, Basler CF. Would the 1918 pandemic influenza virus pose a threat today? American Society for Virology Annual Meeting. Lexington, Ky. July 2002.

Book Chapters

1. Biological Panel of the Committee on Science and Technology for Countering Terrorism. Human and agricultural health systems. In: Branscomb L, Klausner R, eds. *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism.* Washington, DC: National Academy of Sciences Press; 2002.
2. Biological Panel of the Committee on Science and Technology for Countering Terrorism. Countering bioterrorism. In: Branscomb L, Klausner R, eds. *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism.* Washington, DC: National Academy of Sciences Press; 2002.
3. Fanning TG, Reid AH, Janczewski TA, Taubenberger JK. Seeking a pale horse: the 1918 pandemic influenza virus. In: Leitner T, ed. *The Molecular Epidemiology of Human Viruses.* Norwell, Mass: Kluwer Academic Publishers; 2002.
4. Taubenberger JK, Reid AH. The 1918 "Spanish" influenza pandemic and characterization of the virus that caused it. In: Potter CW, ed. *Influenza. Perspectives in Medical Virology, Series 7.* Amsterdam, The Netherlands: Elsevier; 2002:101-122.

Other Publications

1. Evans D, England G, et al. Joint Interim Report. Bahamas marine mammal stranding event of 15-16 March 2000. National Oceanographic and Atmospheric Administration, January 2002.
2. Taubenberger JK. The 1918 influenza and lessons for the future. *National Campaign for Influenza Prevention Newsletter*. 2002;2:7.

GOALS

1. Support the US Department of Defense's readiness for joint operations.
 - Develop rapid methods for molecular diagnostic assay testing in neoplasia, infectious disease, and genetic diseases.
 - Support military and other government agencies with molecular pathology assays.
2. Assist in the provision of top-quality, cost-effective health care benefits for military personnel, their dependents, and the American people.
 - Develop novel molecular technologies to augment traditional diagnostic pathology techniques, to improve diagnostic accuracy and provide information on clinical behavior.
3. Help ensure the development of military and civilian health care leaders who excel in medicine.
 - Provide local, national, and international lectures, seminars and workshops.
 - Provide required molecular pathology training to pathology residents at Walter Reed Army Medical Center, Bethesda Naval Hospital, Howard University and to visiting residents and fellows from other institutions.
 - Support AFIP courses with lectures on various aspects of molecular pathology and molecular biology.
4. Develop innovations and validate applications of new technologies.
 - Develop new strategies for molecular genetic analyses of fixed tissue samples for clinical diagnosis and research.
 - Develop clinical molecular genetic assays for inherited genetic diseases.
 - Develop automated strategies for molecular genetic analysis.
5. Improve our understanding of health and disease.
 - Identify and characterize genetic changes in neoplasia, specifically those associated with cellular transformation, progression, and recurrence.
 - Identify and characterize RNA and DNA viruses that cause significant human or animal disease.



Robert L. Becker, Jr, Col, USAF, MC
Chief
Date of Appointment – 1 April 1988



DIVISION OF QUANTITATIVE PATHOLOGY

MISSION

The Division of Quantitative Pathology conducts research and educational programs in flow cytometry, image analysis, morphometry, and artificial intelligence as applied to pathology. We develop applications of these techniques for consultation, as appropriate.

STAFF

Medical:

Robert L. Becker, Jr, Col, USAF, MC, Chief
William R. Oliver, MD

Scientific:

(D) Alison Director-Myska, PhD
Annette Geissel, HT(ASCP)
Michelle Webb, BS
(A) Ruixia Zhou, PhD

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Flow Cytometry Completed</i>	<i>Forensic</i>
Military	37	3
Army	(22)	(1)
Navy	(8)	(1)
Air Force	(7)	(1)
Federal	5	4
VA	(3)	(1)
USPHS	(2)	
FBI	(3)
Civilian	38	7
Interdepartmental	6	11
Total	86	25

The above cases required the following types of procedures and analyses:

- H&E stain: 316
- Image digitization: 14
- Forensic modeling and rendering: 1

Eighty-three of the flow cytometry cases were for analysis of products of conception. Results in 10 POC cases contradicted the histological impression (6 cases changed from partial mole to hydropic degeneration, 4 cases with the reverse change). In 38 cases, flow cytometry resolved a differential diagnosis between partial mole and either complete mole or hydropic degeneration. Twenty-six flow studies confirmed a histological impression. In 8 cases, no histological impression was stated.

The flow cytometry consultation output covers 10 months of effort, since we discontinued

the flow diagnostic service due to fiscal constraints, with the last case on 16 October 2002. The forensic consultation service provided pattern recognition and attribution of injury in 14 cases from DoD and various other federal and nonfederal civilian agencies. In addition, Dr. Oliver was prosecutor and reporter on 1 autopsy case performed for OAFME.

Impact:

Flow cytometry consultations allow distinction between partial mole and hydropic degeneration, or between complete mole and partial mole in products of conception. With the correct diagnosis, patients are stratified for high, low, or negligible risk of developing persistent trophoblastic disease or choriocarcinoma and are followed up or treated accordingly.

Our forensic imaging investigations were important in determining the murder weapons for multiple killings and understanding the mechanisms of accidental death. We also mitigated critical OAFME staffing shortages for coverage of death investigation.

Deployments:

Dover AFB. Six deployments. Identification and evaluation of human remains. WR Oliver.

Quality Assurance:

1. October 16, 2002, Rockville, Md. College of American Pathologists interim inspection. Zero deficiencies. RL Becker.
2. January 1, 2002 to December 31, 2002. Dr. Oliver executed a standing assignment to consolidate QA/RM reports across the department's divisions and prepare them for departmental review.

EDUCATION

Presentations and Seminars: Presentations in 2002 were in 3 areas: digital microscopy for morphometry and teleconsultation, fluorescent in situ hybridization techniques for genome characterization, and digital imaging in forensic pathology. The first group described progress and plans for digital image acquisition representing complete histologic slides, the use of those images in drug trials for preventing or reversing liver fibrosis due to hepatitis C infection, and the future of whole-slide images for remote diagnosis. The second group concerned general techniques in image-based genomic research (fluorescent in situ hybridization, comparative genomic hybridization and spectral karyotyping), and their specific use in genomic characterization of uveal melanomas for prognostic stratification. The last group of presentations concerned applications of digital image processing and analysis in forensic pathology, with audiences ranging from students with little or no digital imaging experience to expert groups aiming for quality metrics and standards for the use of images (digital or not) in forensic investigations.

Courses: Dr. Oliver provided instruction in the Advanced Practicum in Forensic Pathology run by the OAFME, and the Forensic Odontology Course presented by the Oral Pathology Department. One day each.

Trainees: Dr. Director-Myska worked with 3 trainees: 2 residents from WRAMC, 10 training days each; and 1 graduate student/scientist, 167 training days.

RESEARCH

Publications: There was one publication from the division this year, correlating the modeled and observed distribution of fatal blast injury in an explosives disposal accident.

Projects:

1. Comparative Genomic Hybridization (CGH) of Uveal Melanoma, 10 Cell Lines and 100 Archival Cases. IW McLean (PI), AE Director-Myska, JS White.
2. Comparative Genomic Hybridization (CGH) of Follicular and Diffuse Lymphoma. TJ O'Leary (PI), AE Director-Myska.
3. Comparative Genomic Hybridization (CGH) of Pediatric GISTs. TJ O'Leary (PI), AE Director-Myska, Q Liang.
4. Comparative Genomic Hybridization (CGH) of Laser Microdissected Hodgkin's Lymphoma Tissue. N Aguilera, J Chen, D Cruser, AE Director-Myska.
5. Molecular Characterization of a Small Cell Lymphoma. N Aguilera, AE Director-Myska, K Bijwaard.
6. Green Fluorescent Protein Localization and Identification of Gene Constructs. JH Lichy, PY Perera, AE Director-Myska.

7. Evaluation of Body Armor Deformation Due to Projectile Impact. M DeMaio, WR Oliver.
8. Evaluation of Liver Histology in the HALT-C Trial. Z Goodman, RL Becker.
9. Interferon-gamma 1B in Severe Liver Fibrosis. Z Goodman, RL Becker.

Research Funds Received:

1. The division received, through the Hepatic Pathology Registry, industry support exceeding \$55,000 for a research associate to provide hepatic collagen measurements in tests of drug efficacy against hepatitis C progression.
2. The division received, through the Landmine Blast Injury Assessment Program, support of \$4,000 for evaluation of body armor protection against torso injury (cadaveric specimens).

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. FBI: Digital Image Visualization Consultation to the FBI.
2. FBI: National Standards for Forensic Image Acquisition
3. FBI: National Standards for Forensic Image Analysis
4. SBCCOM: Policy for Mass Fatality Management

Civilian:

1. District of Columbia Medical Examiner, the Maryland State Medical Examiner, and Boeing Corporation: Development of far infrared (hyperspectral) imaging instruments and methods for evaluating patterned injuries.
2. Institute for Forensic Imagery and Purdue University: Establishing standards in forensic digital photography.
3. University of North Carolina at Chapel Hill: Image-based rendering for forensic scene analysis.

Interdepartmental:

1. Department of Hematopathology: Genomic screening (comparative genomic hybridization) of follicular center lymphomas to characterize changes associated with progression.
2. Department of Hematopathology: Comparative genomic hybridization (CGH) of laser microdissected Hodgkin's lymphoma tissue.
3. Department of Hematopathology: Molecular characterization of a small cell lymphoma.
4. Department of Ophthalmic Pathology: Comparative genomic hybridization of uveal melanoma.
5. Division of Hepatic Pathology, Department of Hepatic and Gastrointestinal Pathology: Measurement of collagen (fibrosis and scarring) in liver, evaluating tissue from patients in a trial of Tenovir treatment for hepatitis C.
6. AFIP Scientific Computing Group: Enhance LAN security and assess effects from attempted intrusions.
7. Division of Molecular Pathology: Histotechnology support for conduct of various research projects.
8. Division of Biophysics: Histotechnology and 2D imaging support for conduct of various research projects.
9. Department of Ophthalmic Pathology: Magnetic resonance imaging in the evaluation of retinal hemorrhage in shaken baby syndrome.
10. OAFME: Support of blast injury protection assessment in cadaveric studies.
11. OAFME: Support of lower extremity assessment protocol for protection by footwear against landmine blast injury.
12. OAFME: Establishment of memorandum of agreement with Aberdeen Test Center for medical oversight and joint execution of investigations into blast injury and protection from blast injury.
13. OAFME: Support for determination of formalin fixation effect on recovery of DNA suitable for casualty identification.
14. Division of Cytopathology: Renewal/revision of memorandum of agreement with Air Force Medical Operations Agency for support of gynecologic Pap smear primary diagnosis, including liquid-based cytology.

Committees:

Editorial Boards:

1. *Applied Immunohistochemistry and Molecular Morphology*, RL Becker
2. *Electronic Journal of Pathology and Histology*, RL Becker

Manuscripts Reviewed:

Applied Immunohistochemistry and Molecular Morphology, RL Becker

Offices/Committee Memberships in National or International Societies:

1. Member, EMS Awards Committee, Environmental Mutagen Society, AE Director-Myska.
2. Member, EMS Nominating Committee, Environmental Mutagen Society, AE Director-Myska.
3. Member, EMS Membership Committee, Environmental Mutagen Society, AE Director-Myska.
4. Member, Core Committee on Bioterrorism, National Association of Medical Examiners Proponent, WR Oliver.
5. Chair, National Image Interpretability and Reliability Standards Development Committee for Application of NIIRS in Forensic Autopsy Pathology, National Association of Medical Examiners, WR Oliver.
6. Chair, Exhibits Committee, Association of Military Surgeons of the United States, RL Becker.
7. Member, Executive Committee, Applied Image Pattern Analysis, WR Oliver.
8. Member, Diagnostic Immunology Resource Committee, College of American Pathologists, RL Becker.
9. Chair, Image Quality Subcommittee, Scientific Working Group for Imaging Technology, FBI, WR Oliver.
10. Chair, Image Analysis Subcommittee, Scientific Working Group for Imaging Technology, FBI, WR Oliver.
11. Member, Contract Review Committee for Visual Human Segmentation Project, National Library of Medicine, WR Oliver.
12. Member, Mass Fatality Management Committee, SBCCOM, WR Oliver.
13. Member ex officio, National Advisory General Medical Sciences Council, NIH, RL Becker.

Faculty Appointments:

University of North Carolina, Department of Pathology, Adjunct Professor, WR Oliver.

Official Trips (funding agency in parentheses):

1. June 2002, Scientific Working Group for National Standards in Forensic Imaging, Quantico, Va, WR Oliver (FBI).
2. October 2002, International Conference on Image Processing, Rochester, NY, WR Oliver (AFIP).
3. October 2002, National Association of Medical Examiners, Shreveport, La, WR Oliver (AFIP).
4. November 2002, Association of Medical Surgeons of the United States, Louisville, Ky, RL Becker (AFIP/AMSUS).

PRESENTATIONS

1. January 2002: Washington, DC, AFIP Staff Conference, "Virtual slide: development and applications," RL Becker.
2. June 2002: Quantico, Va, Scientific Working Group for National Standards in Forensic Imaging, "Image quality in forensic image processing," WR Oliver.
3. December 2002: Quantico, Va, Advanced Practicum in Forensic Pathology, "Resolution issues in forensic imaging," WR Oliver.

PUBLICATIONS

Journal Articles

Oliver WR, Baker AM, Powell JD, Cotone CM, Meeker J. Estimation of body exposure to explosion. *Am J Forensic Med Pathol.* 2002;23:252-256.



Susan L. Abbondanzo, MD
Chair
Date of Appointment — 1 May 1994



DEPARTMENT OF HEMATOPATHOLOGY

MISSION

The Department of Hematopathology renders expert consultation on cases involving the pathology of the hematopoietic system. Cases are submitted by the Departments of Defense and Veterans Affairs, and by civilian hospitals worldwide. Staff members participate in various local and national educational and research endeavors involving topics related to hematopathology.

STAFF

Medical:

- Susan L. Abbondanzo, MD, Chair
- Nadine S. Aguilera, MD, Assistant Chair
- Stephen I. Fisher, Maj, USAF, MC, Staff Pathologist
- (A) Carol Barekman, LTC, MC, USA, Staff Pathologist
- (D) Brad Davis, MAJ, MC, USA, Staff Pathologist
- (A) Hong Chen MD, Callender-Binford Fellow
- (D) Alan Oroxom, MD, Callender-Binford Fellow
- (D) Daniel Cruser, MC, USA, Fellow

Scientific:

- Wei-Sing Chu, MD, Supervisor, Immunology Laboratory
- Min Qi Wei, Technologist, Immunology Laboratory
- Lynn Xi, Technologist, Immunology Laboratory

Administrative:

- Michele L. Kelly, Administrator
- (A) Tasha Portee, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	278
Army (134)	
Navy (66)	
Air Force (78)	
Federal	722
VA (714)	
USPHS (2)	
OFA (3)	
FMIL (3)	
Civilian	749
Interdepartmental	1,508
Total	2,736

1,721 cases for consultation, (2,989 blocks) required the following types of procedures and analyses:

- H&E stains: 3,695
- Special stains: 1,521 slides
- Immunohistochemical staining: 25,321 slides for 2,930 cases
- Immunohistochemical staining main laboratory: 20 cases
- Unstained slides cut: 42,436
- Molecular biology examination: 343 tests for 111 cases

Our department made no change in the contributor diagnosis in 909 cases, a minor change in diagnosis in 389 cases, and a major change in diagnosis in 58 cases. We received 387 cases with no contributor diagnosis; 6 cases were recorded without coding.

The department's extensive interdepartmental service provided consultation on 1,749 intramural cases in 2002, with an average turnaround time of 5.53 days. The department also examined approximately 1,508 consultations for other AFIP departments. In 2002, 90% to 95% of cases accessioned to the department required additional workup such as hematoxylin-eosin recuts, special histochemical stains, and, primarily, immunohistochemical marker studies. Molecular diagnostic assays were also used in approximately 10% of cases. The department has its own state-of-the-art immunohistochemistry laboratory which provides support for all intradepartmental (and many interdepartmental) cases. Using this laboratory, we have supported numerous research projects within and outside the department, and have introduced numerous new antibodies for use in paraffin sections: granzyme B, p27, cyclin E, IgD, CD38, bcl-10, C-myc, CD16, CD3 (new clone), and Ki67.

In 2002, the Hematopathology Immunohistochemical Laboratory processed a total of 25,321 slides (2,930 cases). The Molecular Diagnostic Division of the Department of Cellular Pathology, with whom the Department of Hematologic and Lymphatic Pathology has a close working relationship, collaborated in the development and investigation of new assays, including an assay for determination of proto-oncogene overexpression such as C-myc and bcl-2.

Impact:

1. We are the only ACGME-accredited hematopathology training program in the 3 branches of the military (Army, Navy, and Air Force).
2. In 2002, we published statistics on telepathology for hematopathology, which is important to outlying military pathologists.

Quality Assurance: Our laboratory is CAP-accredited. Throughout the year, the department participated in the quarterly CAP proficiency examination for immunohistochemistry laboratories. We also participate in at least 25% quality assurance of all consultation cases, with monthly reports to the Quality Assurance Department.

EDUCATION

Presentations and Seminars: Members of the department gave 20 presentations for a total of 1,465 man-hours. Dates and titles are listed at the end of this report. The department also conducts a 30- to 60-minute slide conference with visitors and staff for active cases 4 to 5 times per week. We conduct a quarterly clinicopathologic conference with the Department of Radiologic Pathology at the AFIP.

Trainees: The department had 1 Callender-Binford Fellow (January 1, 2002–December 31, 2002) and one military fellow (January 1–June 30, 2002). As of July 2003 our program will no longer support Callender-Binford fellows. We had 3 one-month visitors in the department. In 2002 we completed 433 training days, with responsibilities involving service work (under the constant supervision of a credentialed staff pathologist), research, and lecturing.

The department has been accredited by the Accreditation Council for Graduate Medical Education for a hematopathology fellowship program. Education for 2 hematopathology fellows-in-training has been approved. The program utilizes the clinical laboratories and staff at Walter Reed Army Hospital and the National Naval Medical Center in a combined institutional fellowship headed at the AFIP. It is the only accredited military graduate medical education program in hematopathology. Our program was inspected in November of 2001 by the ACGME.

Educational Aids: The department has slide study sets (under protocol), Kodachrome sets, and a Web site maintained by a staff member. All study sets and tools were updated in 2002.

RESEARCH

Publications: Department staff published 3 journal articles and 1 abstract in 2002. Complete bibliographic information appears at the end of this report.

Projects: The department had 12 active research protocols as of December 31, 2002, and several ongoing research projects, including the following:

1. Ultrasound technology in tissue fixation
2. Atypical follicular hyperplasia in children
3. Splenic non-lymphomatous neoplasms
4. Lymphoplasmacytoid lymphoma/immunocytoma
5. Determination of proto-oncogene overexpression in lymphoma
6. Ultrasound fixation and its effect on molecular genetic studies
7. Eosinophilic lymphadenitis
8. Immunohistochemistry multiwell staining system
9. Diffuse large B-cell lymphoma, two unusual subtypes

Research Funds Received:

1. NIH/NCI, \$266,610, Ultrasound-Mediated Tissue Preservation (May 1, 2002 - April 30, 2004).
2. AFIP/ARP Cooperative Enterprise Fund, \$200,000, AFIP Immunopathology Laboratory Proposal for Cost Reduction and Improving Efficiency.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Elaine S. Jaffe, MD, NIH, histiocytic neoplasms
2. Frederick W. Miller, MD, PhD, FDA, immunophenotypic analysis of silicone breast implants

Civilian:

1. Steven H. Swerdlow, MD, University of Pittsburgh, immunocytoma, interfollicular small lymphocytic lymphoma and lymphoplasmacytoid lymphoma/immunocytoma
2. Frank Bauer, MD, St. Francis Hospital, Hartford, Conn, cutaneous follicle center lymphoma
3. Lynn Levin, MD, WRAIR, viral etiology of Hodgkin's lymphoma

International:

J. Geradts, MD, Oxford University, UK, tumor suppressor genes in malignancy

Interdepartmental:

1. TJ O'Leary, Department of Cellular Pathology, transformation of low-grade lymphoma
2. J Lichy, Department of Cellular Pathology, semi-quantitative method for detecting tumor markers

Honors:

John Hill Brinton Award, 2002, SI Fisher

Committees:

Manuscripts Reviewed: The department chair reviewed articles for the following journals of pathology and related specialties:

1. *Mayo Clinic Proceedings*
2. *Cancer*
3. *Archives of Pathology and Laboratory Medicine*
4. *American Journal of Clinical Pathology*

Faculty Appointments:

1. Georgetown University Medical Center, Adjunct Clinical Assistant Professor, Department of Pathology, SL Abbondanzo.
2. Uniformed Services University of the Health Sciences, Adjunct Associate Professor, NS Aguilera.

New Missions:

With the accreditation of our fellowship program, we have added a collaborative education mission with NNMC and WRAMC, as well as an education mission with the National Capital Consortium Pathology Residency.

Official Trips (funding agency in parentheses):

1. March 2002, US and Canadian Academy of Pathology, Chicago, Ill, SL Abbondanzo, NS Aguilera, W-S Chu (AFIP).
2. October 2002, 24th International Congress of the International Academy of Pathology, Amsterdam, The Netherlands, SL Abbondanzo, NS Aguilera (AFIP).

Continuing Education: Department staff attended the following training courses during 2002 (funding agency in parentheses):

1. US and Canadian Academy of Pathology (AFIP)
2. AFIP Weekly Professional Staff Conferences
3. AFIP Annual Anatomic Pathology Review and Update Course (AFIP)
4. 24th International Congress of the International Academy of Pathology (AFIP)

PRESENTATIONS

1. February 2002: Chicago, Ill, US and Canadian Academy of Pathology, Specialty Conference in Hematopathology, "Case presentation," SL Abbondanzo.
2. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "Immunohistochemistry as an adjunct to hematopathology," SL Abbondanzo.
3. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "Classification of lymphomas with an emphasis on extranodal sites," SL Abbondanzo.
4. August 2002: Bethesda, Md, AFIP, Diagnostic Surgical Pathology, "Classification of lymphomas with an emphasis on extranodal sites," SL Abbondanzo.
5. August 2002: Bethesda, Md, AFIP, Diagnostic Surgical Pathology, "Immunohistochemistry as an adjunct to hematopathology," SL Abbondanzo.
6. September 2002: Bethesda, Md, AFIP, 13th Annual Review of Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the GI Tract, SL Abbondanzo.
7. November 2002: Washington, DC, AFIP, Weekly Professional Staff Conference, "Classification of lymphoma with an emphasis on extranodal sites," SL Abbondanzo.
8. April 2002: Bethesda, Md, AFIP, Anatomic Review Course, "High-grade lymphoma," SI Fisher.
9. April 2002: Bethesda, Md, AFIP, Anatomic Review Course, "Reactive lymphadenopathies," BJ Davis.
10. April 2002: Bethesda, Md, AFIP, Anatomic Review Course, "T-cell lymphoma," NS Aguilera.
11. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "Surgical pathology of the bone marrow," SI Fisher.
12. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "High-grade B-cell lymphoma," SI Fisher.
13. June 2002: Washington, DC, George Washington University Medical School, "Surgical pathology of the bone marrow," SI Fisher.
14. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "Normal lymph node," NS Aguilera.
15. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "T-cell lymphoma," NS Aguilera.
16. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "Pathology of the spleen," NS Aguilera.
17. October 2002: Amsterdam, The Netherlands, 24th International Congress of the International Academy of Pathology, "Lymphoplasmacytic lymphoma," NS Aguilera.
18. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "Benign reactive lymphadenopathy," BJ Davis.
19. May 2002: Bethesda, Md, AFIP, Lymph Node and Extranodal Sites: A Glass Slide Workshop, "Small B-cell lymphomas," BJ Davis.

20. September 2002: Washington, DC, WRAMC CLOC Program, "Monoclonal gammopathies," CL Barekaman.

PUBLICATIONS

Journal Articles

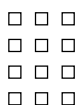
1. Pickhardt PJ, Levy AD, Rohrmann CA, Abbondanzo SL. Non-Hodgkin lymphoma of the appendix: clinical and CT findings with pathologic correlation. *AJR Am J Roentgenol.* 2002;178:1123-1127.
2. Echeverri C, Fisher S, King D, Craig FE. Immunophenotypic variability of B-cell non-Hodgkin lymphoma: a retrospective study of cases analyzed by flow cytometry. *Am J Clin Pathol.* 2002;117:615-620.
3. Aguilera NS, Abbondanzo SL. Letter to the editor. *Mod Pathol.* 2002;15:584-586.

Abstracts

Nelson AM, Oroxom A, Chu W-S, Abbondanzo SL. Immunorestitution disease: immunohistopathological correlation in HIV patients. *Mod Pathol.* 2002;15:274A.



Hernando Mena, COL, MC, USA
Chair
Date of Appointment — 6 March 1995



DEPARTMENT OF NEUROPATHOLOGY AND OPHTHALMIC PATHOLOGY

MISSION

The Department of Neuropathology and Ophthalmic Pathology supports the mission of the Armed Forces Institute of Pathology by providing diagnostic consultation and conducting research and educational programs related to diseases of the nervous, neuromuscular, and visual systems.

ORGANIZATION

The department is organized into 3 divisions:

1. Division of Neuropathology – James M. Henry, MD, Chief
2. Division of Neuromuscular Pathology – Kondi Wong, Lt Col, USAF, MC, Chief
3. Division of Ophthalmic Pathology – Ian W. McLean, MD

STAFF – Divisions of Neuropathology and Neuromuscular Pathology

Medical:

Hernando Mena, COL, MC, USA, Chair
Elisabeth J. Rushing, COL, MC, USA, Assistant Chair
James M. Henry, MD, Chief, Division of Neuropathology, ARP
Kondi Wong, Lt Col, USAF, MC, Chief, Division of Neuromuscular Pathology
Glenn D. Sandberg, LTC, MC, USA, Staff Neuropathologist
John-Paul Bouffard, Lt Col, USAF, MC, Staff Neuropathologist
Lorna R. Cruz, MD, Second-Year Resident, ARP
(A) Miguel A. Riudavets, MD, First-Year Resident, ARP

Scientific:

Ives Valenzuela, Neuromyologist
(D) Tong Hui Mixon, Histotechnologist, ARP
Muhammed Waheed, Histology Technician, ARP
(A) Jane Williams, Histotechnologist, ARP

Administrative:

(D) Michael K. Cooper, HT, Administrative Officer, ARP
Erlinda T. Castro, Secretary, ARP

DIAGNOSTIC CONSULTATION

Division of Neuropathology	
Cases	Completed
Military	195
Army (123)	
Navy (41)	
Air Force (31)	
Federal	128
VA (120)	
USPHS (1)	
OFA (7)	
Civilian	804
Interdepartmental	76
Total	1,203

Division of Neuromuscular Pathology	
Cases	Completed
Military	111
Army (60)	
Navy (29)	
Air Force (22)	
Federal	132
VA (103)	
OFA (29)	
Civilian	406
Interdepartmental	3
Total	652

907 cases for consultation, education, and research required the following types of procedures and analyses:

- H&E stains: 1,527 slides
- Special stains: 806 slides
- Immunohistochemical staining: 2,193 slides
- Molecular biology examination: 5 cases
- Electron microscopy blocks: 5,259
- Frozen sections: 712
- Frozen section slides: 8,605
- Neuromuscular cases: 584
- Toluidine blue slides for electron microscopy: 1,166
- Paraffin blocks: 790

The divisions of Neuropathology and Neuromuscular Pathology made no change in the contributor diagnosis in 481 cases, a minor change in diagnosis in 168 cases, and a major change in diagnosis in 23 cases. We received 980 cases with no contributor diagnosis.

Cases submitted to the divisions include surgical specimens, whole brains obtained at autopsy, skeletal muscle biopsy specimens from cases of medical disorders of skeletal muscle, peripheral nerve biopsy specimens, and skin biopsy specimens from suspected cases of storage disease. All cases accompanied by radiologic studies are reviewed in conference with the neuroradiology staff of the Department of Radiologic Pathology. Whole brains are serially sectioned and

studied according to standardized protocols for specific disorders. Skeletal muscle biopsy specimens are routinely examined using histochemical stains, enzyme histochemical methods, and, in selected cases, with immunohistochemistry and electron microscopy. Peripheral nerve and skin biopsy material are evaluated with light and electron microscopy. The department also provides neuropathology review on selected cases from the Office of the Armed Forces Medical Examiner. Consultation is also provided for Veterans Affairs claim cases.

Impact:

Our expert staff is in constant demand for lectures at military and civilian hospitals, including Walter Reed Army Medical Center (WRAMC), National Naval Medical Center (NNMC), Uniformed Services University of the Health Sciences (USUHS), University of Maryland Medical System, Georgetown University Medical Center, and Washington Hospital Center.

We have established a close relationship with the Department of Pathology and the Neurosurgery Service, WRAMC, for the interpretation of intraoperative consultations and tumor board cases.

Ours is the only military program fully accredited by the Accreditation Council for Graduate Medical Education for training of medical officers, including neurosurgeons and neurologists, in the field of neuropathology. Our trainees have consistently received high marks in exams leading to board certification, and many have achieved international recognition for their research in neuropathology. Military and civilian physicians in training in neurology, neurosurgery, and pathology from medical centers nationwide and abroad regularly attend the semi-annual, intensive, 3-month didactic course designed for those seeking specialty board certification.

Deployments:

1. May 7-8, 2002, Tacoma, Wash, Madigan Army Medical Center. Consultant, Department of Pathology. GD Sandberg.
2. June 4-8, 2002, Wuerzburg, Germany. Expert witness for military courts martial. GD Sandberg.
3. August 20, 2002, Washington, DC, WRAMC. Consultant, Department of Pathology. J-P Bouffard.
4. August 20-21, 2002, Tacoma, Wash, Madigan Army Medical Center. Consultant, Department of Pathology. GD Sandberg.
5. September 19, 2002, Washington, DC, WRAMC. Consultant, Department of Pathology. J-P Bouffard.
6. October 29, 2002, Washington, DC, WRAMC. Consultant, Department of Pathology. J-P Bouffard.
7. November 12-13, 2002, Tacoma, Wash, Madigan Army Medical Center. Consultant, Department of Pathology. GD Sandberg.

Quality Assurance:

November 14, 2002, AFIP Scientific Advisory Board. Mark P. Burton, Renata Greenspan, Robert Friedman, Alan D. Proia.

EDUCATION

Presentations and Seminars: Staff of the 2 divisions made 70 presentations at various venues during 2002. Complete information is listed at the end of this report.

Clinicopathologic Conferences: Department staff participate in the following clinicopathologic conferences as part of our ongoing educational mission:

1. Neuropathology and Ophthalmic Pathology, AFIP: Daily sign-out conference.
2. Department of Pathology, WRAMC: Weekly intraoperative diagnosis of neurosurgical specimens.
3. Department of Neuropathology, AFIP: Weekly neuropathology/neuroradiology conference.
4. Department of Neuropathology, AFIP: Bimonthly review of muscle biopsies with the staff of the Connective Tissue Disease Section, NIH.
5. WRAMC: Monthly neurosurgery tumor board.
6. Department of Neuropathology, AFIP: Journal club, monthly.

Courses: Members of the staff participated as faculty members in 7 AFIP-sponsored general pathology courses and in 1 non-AFIP course.

1. January-March 2002: AFIP Neuropathology Seminars (15 attendees, 560 training days,

- 1,680 hours).
2. 25 February – 1 March 2002: Bethesda, Md, 40th Annual Neuropathology Review (146 attendees, 730 training days, 4,526 hours).
 3. April 15-20, 2002: Silver Spring, Md, AFIP 12th Annual Anatomic Pathology Review Course.
 4. May 11-12, 2002: Bethesda, Md, AFIP Muscle Disorders Course and Workshop (33 attendees).
 5. July-September 2002: AFIP Neuropathology Seminars (11 attendees, 384 training days, 1,152 hours).
 6. August 28-30, 2002: Bethesda, Md, AFIP Diagnostic Surgical Pathology Course (36 attendees).
 7. October 27-29, 2002: New Orleans, La, American College of Rheumatology, Histologic Diagnosis of Muscle Disorders, Meet the Professor Workshops 1 and 2.
 8. December 5-7, 2002: Puebla, Mexico, 10th AFIP Diagnostic Surgical Pathology Course in English and Spanish.

Trainees: The department is fully approved for residency training in neuropathology by the Residency Review Committee for Pathology of the Accreditation Council for Graduate Medical Education. In 2002 the department had 2 full-time residents for a total of 500 training days.

Educational Aids:

- Department library.
- Syllabus of General Neuropathology: Non-neoplastic lesions of the nervous system mounted on glass slides.
- Syllabus of Neoplastic Lesions of the Central Nervous System: Sections of tumors mounted on glass slides.
- Histology: A Photographic Atlas: Includes a videodisc with over 7,000 color photographs of cells, organs, and tissues, including the nervous system.
- Radiologic Atlas of Brain Tumors: 1,040 cases of brain tumors on a videodisc.
- Yakovlev-Haleem Collection: Includes 1,570 specimens of cerebrovascular disease, neurosurgery for behavioral diseases, congenital malformations, and experimental animals. Associated with the collection are a reference library and computer-training technology.
- Lindenberg Collection: 15,000 specimens. Includes clinical and laboratory records, glass slides, and paraffin blocks documenting cases of head trauma from the Office of the Maryland State Medical Examiner. The collection was founded by the late Dr. Richard Lindenberg.
- Rubenstein Collection: 4,000 specimens. Includes slides, paraffin blocks, photographs, and records documenting brain tumors. The collection was founded by the late Dr. Lucien J. Rubenstein and transferred to the AFIP from the University of Virginia in 1991.

RESEARCH

Publications: Members of the department contributed to the publication of 6 refereed journal articles, 8 abstracts, 2 syllabi, and 4 course handouts. Complete data are listed at the end of this report.

Projects: The divisions of Neuropathology and Neuromuscular Pathology have 20 officially approved research protocols:

1. Penetrating head injury in Operation Desert Storm, UBBU, GD Sandberg.
2. Comparative 3-dimensional reconstruction and quantitative analysis of Alzheimer's disease and age-matched control brains, UBEL, K Wong.
3. The specificity of florid plaques in the diagnosis of new variant Creutzfeldt-Jakob disease, UBEP, GD Sandberg.
4. A proteolipid protein (PLP) double frameshift mutation causing abnormalities in major myelin structural protein stoichiometry in patients with combined central white matter abnormality and peripheral neuropathy, UBFV, K Wong.
5. Ischemic lesions of the brain that mimic brain tumors, UBGM, H Mena.
6. Proliferation markers of potential diagnostic and prognostic value in astrocytomas WHO

- grades II and III, UBHZ, H Mena.
7. Mechanisms of autoimmunity in inflammatory muscle disease, UBBJ, K Wong.
 8. Diagnosis of Alzheimer's disease: reappraisal of specific features, UBJI, GD Sandberg.
 9. Erythropoietin (EPO) and erythropoietin receptor (EPOR) expression in human glial neoplasms involved in hypoxic signaling mechanisms, UBLP, K Wong.
 10. Malignant astrocytic tumors of the spinal cord, UBMW, H Mena.
 11. Neuropathology of diabetic neuropathy in the autonomic nervous system of streptozotocin-treated rats, UBMZ, K Wong.
 12. Morphologic clues to the pathogenesis of neuronopathic Gaucher disease, UBPM, K Wong.
 13. Primary cerebellar tumors: a comparative study, UBPZ, EJ Rushing.
 14. Incidence of neuritic plaques related to brain radiation therapy, UBRK, H Mena.
 15. Genotyping and expression profiling of skeletal muscle ion channel diseases (eg, malignant hyperthermia) affecting military, active duty personnel, UBSE, K Wong.
 16. Extra-central nervous system meningiomas, UBST, J-P Bouffard.
 17. Meningiomas: study of unusual variants, UBSV, EJ Rushing.
 18. Pleomorphic xanthoastrocytoma: immunohistochemical and clinicopathological studies for evaluation of aggressive variants, UBVF, EJ Rushing.
 19. Pilocytic astrocytoma of the infundibulum (infundibuloma), UBYB, JM Henry.
 20. Parkinson's disease: a clinicopathologic and molecular correlation of postencephalitic and Japanese B variants, UBYD, JM Henry.

Research Funds Received: Kondi Wong – Partner, coauthor of NIH R21 biotechnology grant. Principal investigator: Dr. Wei-Sing Chu; \$250,000 awarded for 2 years; \$200,000 matching developmental grant from AFIP.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Ajay Verma, USUHS, Human glioma research: glioblastoma multiforme erythropoietin and erythropoietin receptor expression and positive feedback causing anaplasia and resistance to cisplatin chemotherapy and hypoxic effects of radiation therapy.
2. Aardin Auerbach, NIH, Intracranial solitary fibrous tumor.
3. Raphael Schiffmann, National Institute of Neurologic Disorders and Stroke (NINDS), NIH:
 - Childhood ataxia with cerebral hypomyelination syndrome – vanishing white matter disease-Cree leukoencephalopathy (CACH-VWN-CLE).
 - Dysmyelinating diseases: proteolipid protein mutations causing peripheral nerve dysmyelinating disease and misdistribution of myelin proteins.
 - Gaucher disease: neuronopathic Gaucher disease cytotoxicity, link with diffuse Lewy body dementia and Parkinson's disease.
4. Ellen Sidransky, NIMH, Genetics of neuronopathic Gaucher disease cytotoxicity, link with diffuse Lewy body dementia and Parkinson's disease.
5. Nina Raben, Paul Plotz, National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMSD), NIH:
 - Transgenic mouse models of alpha 1, 4 glucosidase deficiency (Pompe's disease) treated with enzyme replacement therapy.
 - Granzyme B mediated autoimmune disease.
6. David L. Kastner, Keith M. Hull, (NIAMSD), NIH, Monocytic fasciitis associated with TNF-receptor associated periodic syndrome (TRAPS).
7. Richard H. Quarles, Michel D. Weiss, NINDS, NIH, Dysmyelinating diseases: proteolipid protein mutations causing peripheral nerve dysmyelinating disease and misdistribution of myelin proteins.

Civilian:

1. Ravi Raghawan, University of Texas Southwestern Medical Center, Pediatric oligodendrogliomas: molecular alterations on 1p 19q.
2. Brock Kaya, University of Hawaii, Alpha-internexin expression in medulloblastomas and atypical teratoid/rhabdoid tumors of the central nervous system.

3. Mariarita Santi, Children's Hospital National Medical Center, Spinal cord malignant astrocytomas.
4. Diego Cadavid, University of Medicine and Dentistry of New Jersey, Morphological studies of human cerebral infarct.
5. Paul E. McKeever, University of Michigan Medical School, Proliferation markers of potential diagnostic and prognostic value in astrocytomas WHO grades II and III.
6. Juan C. Troncoso, Johns Hopkins University School of Medicine, Histological review of brains in Baltimore longitudinal study of aging (BLSA).
7. Friedrich Unterharnscheidt, Lexington, Ky, Neuropathology of boxing injuries.
8. David N. Louis, Matthew P. Frosch, Harvard University School of Medicine, AFIP central nervous system atlas of non-tumor pathology.
9. Julio H. Garcia, Henry Ford Hospital, Injuries of the brain and spinal cord associated with ischemia.
10. Joseph E. Parisi, Bernd W. Scheithauer, Mayo Clinic, Tumors of the central nervous system.
11. Peter Burger, Johns Hopkins University School of Medicine, Histological review of ependymomas.
12. K. Nagaraju, Johns Hopkins University School of Medicine, Granzyme B mediated autoimmune disease.
13. Darlene R. Ketten, Woods Hole Oceanographic Institute, Blast trauma research on beaked whales.

International:

1. Kurt A. Jellinger, Ludwig Boltzmann Institute of Clinical Neurobiology, Vienna, Austria, Postencephalitic parkinsonism.
2. Werner Gottwald, University of Erlangen, Germany, Horton's giant cell arteritis and Takayasu's syndrome.
3. Anthony H. Futerman, Weizman Institute of Science, Rehovot, Israel, Gaucher disease: biochemistry of neuronopathic Gaucher disease cytotoxicity, link with diffuse Lewy body dementia and Parkinson's disease.

Interdepartmental:

1. Marku Miettinen, Soft Tissue Pathology, Internexin expression in medulloblastomas.
2. Marku Miettinen, Soft Tissue Pathology, Immunohistochemistry of meningiomas and mesenchymal tumors of the central nervous system.
3. Lester Thompson, Endocrine and Otorhinolaryngic/Head-Neck Pathology, Extra-central nervous system meningiomas.
4. Kelly Koeller, Radiologic Pathology, Spinal cord malignant astrocytomas.

Honors:

1. American Association of Neuropathologists 78th Annual Meeting, Denver, Colo, June 23, 2002. Moore Award, Lorna R. Cruz. Best paper on clinicopathological correlation, "Monocytic fasciitis is the cause of myalgia in tumor necrosis factor-receptor associated periodic syndrome."
2. John-Paul Bouffard, Lt Col, USAF, MC, US Air Force Meritorious Service Medal, May 19, 2002.

Promotions: John-Paul Bouffard, promoted from Major to Lieutenant Colonel, US Air Force, May 19, 2002.

Committees:

Editorial Boards:

Annals of Diagnostic Pathology, H Mena

Manuscripts Reviewed:

1. *Journal of Neuropathology and Experimental Neurology* (1)
2. *Journal of Histochemistry and Cytochemistry* (1)

Offices/Committee Memberships in National or International Societies:

1. Cochair, Vascular/Trauma Session, American Association of Neuropathologists 78th Annual Meeting, Denver, Colo, June 2002, H Mena.
2. Member, Planning Committee, Internet Website Development, American Association of

Neuropathologists 78th Annual Meeting, Denver, Colo, K Wong.

3. Member, Awards Committee, American Association of Neuropathologists 78th Annual Meeting, Denver, Colo, K Wong.
4. Member, Planning Committee, Internet Website Development, International Congress of Neuropathology, San Francisco, Calif, K Wong.
5. Brain Pathology Reviewer, Southwest Oncology Group, San Antonio, Tex, EJ Rushing.
6. Member, Alumni Advisory Board for Sciences and Mathematics, Washington and Lee University, Lexington, Va, J-P Bouffard.

Faculty Appointments:

1. University of Maryland Medical System, Clinical Assistant Professor, Department of Pathology, H Mena.
2. WRAMC, Consultant in Neuropathology, H Mena.
3. University of Louisville School of Medicine, Clinical Professor of Pathology and Neurological Surgery, JM Henry.
4. WRAMC, Washington, DC, Consultant in Neuropathology, GD Sandberg.
5. USUHS, Clinical Assistant Professor, Neurosciences Group, K Wong.
6. USUHS, Clinical Assistant Professor, Department of Pathology, K Wong.
7. Georgetown University, Adjunct Associate Professor, Department of Pathology, EJ Rushing.
8. University of California, Berkeley and San Francisco, Teaching Faculty, K Wong.

Official Trips (funding agency in parentheses):

1. June 2002, 78th Annual Meeting of the American Association of Neuropathologists, Denver, Colo, H Mena, EJ Rushing, GD Sandberg, K Wong, J-P Bouffard, LR Cruz (AFIP, ARP).
2. October 2002, American College of Rheumatology Annual Meeting, New Orleans, La, K Wong (ACR).
3. October 2002, Joint Meeting of the Belgian, Dutch and German Societies of Neuropathology, Aachen, Germany, EJ Rushing (ARP).
4. October 2002, International Academy of Pathology Meeting, Amsterdam, The Netherlands, K Wong (ARP).
5. December 2002, AFIP Diagnostic Surgical Pathology Course, Puebla, Mexico, H Mena, K Wong (ARP).

Continuing Education: Members of the department attended the following courses for training in 2002:

1. 40th Annual Neuropathology Review, Bethesda, Md (ARP).
2. Ophthalmic Pathology for Ophthalmologists, Washington, DC.
3. Microglia in Neuropathology, American Association of Neuropathologists Special Course, 78th Annual Meeting, Denver, Colo (AFIP, ARP).
4. United States Air Force War College, Seminar at the Pentagon, 2002, K Wong.

PRESENTATIONS

1. January 2002: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Congenital malformations of the central nervous system," H Mena.
2. January 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Microscopic slide unknowns," EJ Rushing.
3. January 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Brain cutting conference," EJ Rushing.
4. February 2002: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Neurodegenerative diseases," H Mena.
5. February 2002: Bethesda, Md, AFIP 40th Annual Neuropathology Review, "Introduction to neuropathology," GD Sandberg.
6. February 2002: Bethesda, Md, AFIP 40th Annual Neuropathology Review, "Embryonal, neuronal and mixed neuronal-gliar neoplasms of the central nervous system," H Mena.
7. February 2002: Bethesda, Md, AFIP 40th Annual Neuropathology Review, "Pediatric neuropathology," JM Henry.

8. February 2002: Bethesda, Md, AFIP 40th Annual Neuropathology Review, "Toxic and metabolic diseases of the central nervous system," EJ Rushing.
9. February 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Basic concepts of neuropathology," EJ Rushing.
10. March 2002: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Non-glial tumors," H Mena.
11. March 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Microscopic slide unknowns," EJ Rushing.
12. March 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Toxic, metabolic and nutritional disorders of the central nervous system," EJ Rushing.
13. March 2002: Washington, DC, AFIP Weekly Professional Staff Conference, "Scottish highlanders meet the Quebec Cree. The Lach/vanishing white matter/Cree Indian leukoencephalopath story," K Wong.
14. April 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Meningiomas," EJ Rushing.
15. April 2002: Washington, DC, Georgetown University Medical Center Sophomore Medical School Lecture, "Neurodegenerative diseases," EJ Rushing.
16. April 2002: Bethesda, Md, AFIP 12th Annual Anatomic Pathology Course, "Introduction to neuropathology," GD Sandberg.
17. April 2002: Bethesda, Md, AFIP 12th Annual Anatomic Pathology Course, "Glial neoplasms," JM Henry.
18. April 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Microscopic slide unknowns," EJ Rushing.
19. May 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg.
20. May 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg.
21. May 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Prion diseases," GD Sandberg.
22. May 2002: Washington, DC, Washington Hospital Center Neurosurgery Lecture, "Proliferation markers and recent advances in meningiomas," EJ Rushing.
23. May 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Pathology residents neuropathology board review," EJ Rushing.
24. May 2002: Bethesda, Md, AFIP Muscle Disorders Course and Workshop, "Basic pattern of muscle disease," EJ Rushing.
25. May 2002: Bethesda, Md, AFIP Muscle Disorders Course and Workshop, "Introduction to muscle pathology," K Wong.
26. May 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Brain cutting conference," EJ Rushing.
27. June 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Brain cutting conference," EJ Rushing.
28. June 2002: Denver, Colo, American Association of Neuropathologists 78th Annual Meeting, Poster Presentation, "Alpha-internexin expression in medulloblastomas and atypical teratoid/rhabdoid tumors," EJ Rushing.
29. June 2002: Denver, Colo, American Association of Neuropathologists 78th Annual Meeting, Platform Presentation, "Human cerebral infarct: a proposed classification based on 137 cases," H Mena.
30. June 2002: Denver, Colo, American Association of Neuropathologists 78th Annual Meeting, Poster Presentation, "Double immunolabeling in central nervous system atypical teratoid/rhabdoid tumors," J-P Bouffard.
31. June 2002: Denver, Colo, American Association of Neuropathologists 78th Annual Meeting, Platform Presentation, "Monocytic fasciitis is the cause of myalgia in tumor necrosis factor-receptor associated periodic paralysis syndrome," LR Cruz.
32. July 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Introduction to neuropathology I," EJ Rushing.
33. July 2002: Washington, DC, Georgetown University Medical Center, Department of

- Pathology, "Microscopic slide unknowns," EJ Rushing.
34. August 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Introduction to neuropathology II," EJ Rushing.
 35. August 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Introduction to neuropathology III," EJ Rushing.
 36. August 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg.
 37. August 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg.
 38. August 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Interpretation of peripheral nerve biopsies," GD Sandberg.
 39. August 2002: Bethesda, Md, AFIP Diagnostic Surgical Pathology Course, "Meningeal and melanocytic tumors of the central nervous system," H Mena.
 40. August 2002: Bethesda, Md, AFIP Diagnostic Surgical Pathology Course, "Neuropathological aspects of dementias," H Mena.
 41. August 2002: Washington, DC, WRAMC, Department of Pathology "Brain cutting conference," J-P Bouffard.
 42. September 2002: Washington, DC, Washington Hospital Center, Neurosurgery Lecture, "Pineal region masses," EJ Rushing.
 43. September 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Brain cutting conference," EJ Rushing.
 44. September 2002: Washington, DC, Washington Hospital Center, Neurosurgery Lecture, "Surgical neuropathology I," EJ Rushing.
 45. September 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Microscopic slide unknowns," EJ Rushing.
 46. September 2002: Washington, DC, WRAMC, Department of Pathology, "Brain cutting conference," J-P Bouffard.
 47. September 2002: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Pituitary gland pathology," H Mena.
 48. October 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Brain cutting conference," EJ Rushing.
 49. October 2002: Washington, DC, Washington Hospital Center, Neurosurgery Lecture, "Surgical neuropathology II," EJ Rushing.
 50. October 2002: Bethesda, Md, National Naval Medical Center, Department of Pathology, "Brain cutting conference," J-P Bouffard.
 51. October 2002: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Non-glial tumors," H Mena.
 52. October 2002: Bethesda, Md, Children's Gaucher Foundation Meeting, Guest Discussion Panel, K Wong.
 53. October 2002: Amsterdam, The Netherlands, International Academy of Pathology Meeting, Invited Lecture, "Diagnosis of vasculitis in muscle and peripheral nerve biopsy specimens," K Wong.
 54. October 2002: New Orleans, La, American College of Rheumatology Meeting, Meet the Professors Workshop, "Basic histologic diagnosis of muscle disorders," K Wong.
 55. October 2002: New Orleans, La, American College of Rheumatology Meeting, Meet the Professors Workshop, "Advanced histologic diagnosis of muscle disorders," K Wong.
 56. October 2002: New Orleans, La, American College of Rheumatology Meeting, Meet the Professors Workshop, "Vasculitis," K Wong.
 57. October 2002: Aachen, Germany, Joint Meeting of the Belgian, Dutch and German Societies of Neuropathology, Poster Presentation, "Malignant transformation of a dysembryoplastic neuroepithelial tumor," EJ Rushing.
 58. November 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Brain cutting conference," EJ Rushing.
 59. November 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Residents case review (autopsy)," EJ Rushing.
 60. November 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg.

61. November 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg.
62. November 2002: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Introduction to neuropathology," GD Sandberg.
63. November 2002: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Vascular disorders of the central nervous system," H Mena.
64. December 2002: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Microscopic slide unknowns," EJ Rushing.
65. December 2002: Washington, DC, Washington Hospital Center, Neurosurgery Lecture, "Surgical neuropathology III," EJ Rushing.
66. December 2002: Hershey, Pa, Milton S. Hershey Medical School, Penn State University, Department of Pathology, Invited Lecture, "Double immunolabeling in central nervous system atypical teratoid/rhabdoid tumors," J-P Bouffard.
67. December 2002: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Central nervous system malformations," H Mena.
68. December 2002: Puebla, Mexico, AFIP Diagnostic Surgical Pathology Course, "Past, present and future of electron microscopy," K Wong.
69. December 2002: Puebla, Mexico, AFIP Diagnostic Surgical Pathology Course, "Morphology of brain infarct," H Mena.
70. December 2002: Puebla, Mexico, AFIP Surgical Pathology Course, "Meningeal and melanocytic tumors of the central nervous system," H Mena.

PUBLICATIONS

Journal Articles

1. Fogli A, Wong K, Eymard-Pierre E, Wenger J, Bouffard JP, Goldin E, Black DN, Boespflug-Tanguy O, Schiffman R. Cree leukoencephalopathy and CACH/VWM disease are allelic at the EIF2B5 locus. *Ann Neurol*. 2002;52:506-510.
2. Black DN, Harris R, Schiffman R, Wong K. Fatal infantile leukodystrophy: a severe variant of CACH/VWM syndrome, allelic to chromosome 3q27. *Neurology*. 2002;58:161-162.
3. Hull KM, Wong K, Wood GM, Kastner DL. Monocytic fasciitis: a new clinical feature of TNF-receptor dysfunction. *Arthritis Rheum*. 2002;46:2189-2194.
4. Hull KM, Drewe E, Aksentijevich I, Singh HK, Wong K, McDermott EM, Dean J, Powell RJ, Kastner DL. The TNF receptor-associated periodic syndrome (TRAPS): emerging concepts of an autoinflammatory disorder. *Medicine (Baltimore)*. 2002;81:349-368.
5. Kaplan KJ, Burgess JR, Sandberg GD, Myers CP, Bigott TR, Greenspan RB. Use of robotic telepathology for frozen-section diagnosis: a retrospective trial of telepathology system for intraoperative consultation. *Mod Pathol*. 2002;15:1197-1204.
6. Koeller KK, Sandberg GD. Cerebral intraventricular neoplasms: radiologic-pathologic correlation. *Radiographics*. 2002;22:1473-1505.

Abstracts

1. Rushing EJ, Thompson LD, Mena H. Malignant transformation of a dysembryoplastic neuroepithelial tumor after radiation and chemotherapy. *Acta Neuropathol (Berl)*. 2002;102:567.
2. Raghavan R, Balani J, Perry A, Margraf L, Vono MB, Cai DX, Wyatt RE, Rushing EJ, Bowers DC, Hynan LS, White CL III. Pediatric oligodendrogliomas: molecular alterations on 1p and 19q. *Mod Pathol*. 2002;15:298A.
3. Mena H, Cadavid D, Rushing EJ. Human cerebral infarct: a proposed classification based on 137 cases. *J Neuropathol Exp Neurol*. 2002;61:453.
4. Auerbach A, Cassarino DS, Rushing EJ. Solitary fibrous tumor involving the sphenoid sinus, cavernous sinus and pituitary fossa. *J Neuropathol Exp Neurol*. 2002;61:479.
5. Kaya B, Mena H, Miettinen M, Rushing EJ. Alpha-internexin expression in medulloblastomas and atypical teratoid/rhabdoid tumors. *J Neuropathol Exp Neurol*. 2002;61:156.
6. Bouffard J, Sandberg GD, Rorke LB, Golden JA. Double immunolabeling of CNS atypical teratoid/rhabdoid tumors. *J Neuropathol Exp Neurol*. 2002;61:478.
7. Mohyeldin A, Liu S, Huasheng L, Dalgardi C, Shaungshoti S, Mixon TH, Wong K, Verma A. Erythropoietin signaling promotes survival of human gliomas. *J Neuropathol Exp*

Neurol. 2002;61:446.

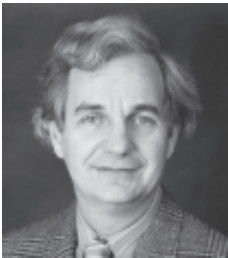
8. Cruz L, Hull K, Wood G, Chu WS, Kastner D, Sandberg G, Wong K. Monocytic fasciitis is the cause of myalgia in tumor necrosis factor-receptor associated periodic paralysis syndrome. *J Neuropathol Exp Neurol.* 2002;61:486.

Other Publications

1. Syllabus for 40th Annual Neuropathology Review.
2. Syllabus for Muscle Disorders Course and Workshop.
3. Handouts for lectures in 3 AFIP-sponsored courses.
4. Handouts for lectures in 1 course sponsored by the American College of Rheumatology.

GOALS

1. Diagnose all consultation cases in an accurate and timely manner by reducing the turnaround time.
2. Maintain the residency program by recruiting at least one new resident each year.
3. Incorporate newly published scientific information into the short and long neuropathology courses.
4. Identify, investigate, and publish significant research projects in collaboration with intramural and extramural sources and present the results at national and international meetings.
5. Serve as a neuromuscular reference laboratory for DoD and other government and civilian institutions.



Ian W. McLean, MD
Chief
Date of Appointment — 21 November 1986



DIVISION OF OPHTHALMIC PATHOLOGY

MISSION

The Division of Ophthalmic Pathology provides consultation to military and civilian pathologists, gross and microscopic examinations of eyeballs for contributors, and diagnoses of unusual or difficult cases. We conduct research based on the Registry of Ophthalmic Pathology, and provide training to residents and fellows.

STAFF

Medical:
Ian W. McLean, MD, Chief
Ahmed A. Hidayat, MD, Assistant Chief
Manuel E. Pontigo, MD, PhD, Fellow

Administrative:
Alonzo L. Ray, Jr, Secretary

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	90
Army (42)	
Navy (26)	
Air Force (22)	
Federal	103
VA (102)	
OFA (1)	
Civilian	533
Interdepartmental	19
Total	745

Of the 745 cases, 106 had a minor change in diagnosis, 17 had a major change in diagnosis, and 345 were submitted with no contributor diagnosis. In 63% of the cases, the division provided the primary diagnosis or changed the contributor diagnosis.

The above cases required the following types of procedures and analyses:

- Wet tissue specimens processed: 180
- Contributor blocks cut: 160
- H&E stained slides: 728
- Special stains: 240
- Electron microscopy: 3

EDUCATION

Presentations and Seminars: Division staff made 7 presentations in 2002. Complete titles and dates are listed at the end of this report. Division staff participate in daily sign-out conferences and an annual staff conference as part of our ongoing educational mission.

Courses: Division staff participated in 1 AFIP course in 2002.

Trainees: The division is fully approved for residency training in ophthalmic pathology by the Residency Review Committee for Ophthalmology of the Accreditation Council for Graduate Medical Education. In 2002, the division had 20 residents, fellows, and medical students, for a total of 910 training days.

RESEARCH

Publications: Division staff published 6 journal articles and 2 abstracts in 2002. Complete bibliographic information is listed at the end of this report.

OTHER ACCOMPLISHMENTS

Manuscripts Reviewed: Division staff reviewed 40 manuscripts for scientific journals in 2002.

Editorial Boards:

1. *Saudi Ophthalmology Journal*, A Hidayat.
2. Guest Editorial Board Member, *Investigative Ophthalmology and Visual Science*, I McLean.

PRESENTATIONS

1. May 2002: Ft. Lauderdale, Fla, ARVO, "Epithelial metaplasia of the endothelium in Fuch's endothelial dystrophy," AA Hidayat, GC Cockerham.
2. May 2002: Ft. Lauderdale, Fla, ARVO, "Histopathologic findings in bullous keratopathy," IW McLean, M Pontigo.
3. June 2002: Hershey, Pa, Verhoeff-Zimmerman Society Meeting, "Choroidal hemangioma in Sturge Webber's syndrome," AA Hidayat.
4. June 2002: Hershey, Pa, Verhoeff-Zimmerman Society Meeting, "The morning glory syndrome," IW McLean.
5. October 2002: Mansoura, Egypt, Mansoura University, "The histopathology of LASIK," AA Hidayat.
6. October 2002: Mansoura, Egypt, Mansoura University, "Cytologic evaluation of conjunctival tumors," AA Hidayat.
7. 2002: Washington, DC, AFIP Staff Conference, "Retinoblastoma," IW McLean.

PUBLICATIONS

Journal Articles

1. Kramer TR, Grossniklaus HE, McLean IW, Orcutt J, Green WR, Iliff NT, Tressera F. Histiocytoid variant of eccrine sweat gland carcinoma of the eyelid and orbit. *Ophthalmology*. 2002;109:553-559.
2. Cockerham KP, Hidayat AA, Brown HG, Cockerham GC, Graner SR. Clinicopathologic evaluation of the Mueller muscle in thyroid-associated orbitopathy. *Ophthalm Plast Reconstr Surg*. 2002;18:11-17.
3. Coupland SE, Hidayat AA, Foss MD, Cockerham GC. Extranodal marginal zone B cell lymphoma of the uvea: an analysis of 13 cases. *J Pathol*. 2002;197:333-340.
4. Hidayat AA, Elner V, Hamilton WF, Kushner FH. Metastatic spindle cell carcinoid of the choroid. *Ophthalm Pract*. 2002;20:5, 202.
5. Cockerham GC, Laver N, Hidayat AA, McCoe DL. An immunohistochemical analysis and comparison of posterior polymorphous dystrophy with congenital hereditary endothelial dystrophy. *Cornea*. 2002;21:787-791.
6. Weichel R, Ward T, Hidayat A. Epicorneal aspergilloma following penetrating keratoplasty. *Cornea*. 2002;21:825-827.

Abstracts

1. Hidayat AA, Cockerham GC. Epithelial metaplasia of the endothelium in Fuch's endothelial dystrophy. *IOVS*. 2002;43:E1090.
2. McLean IW, Pontigo M. Histopathologic findings in bullous keratopathy. *IOVS*. 2002;43:E1093.



Glenn D. Sandberg, LTC, MC, USA
Chair
Date of Appointment – October 2001

Christian D. Sepulveda, MSgt, USAF, Superintendent
Date of Appointment – August 2001



DEPARTMENT OF SCIENTIFIC LABORATORIES

MISSION

The Department of Scientific Laboratories provides technical, consultative, and scientific services to the Armed Forces Institute of Pathology, supporting the Institute's mission of consultation, education, and research. Services include basic and advanced histology techniques, scanning and transmission electron microscopy, and immunohistochemical tissue analyses. The department provides basic and advanced training in histology techniques to military and civilian personnel through the Tri-Service School of Histotechnology and the Annual Histopathology Techniques Seminar, respectively. All efforts are designed to ensure the highest medical and investigative science.

ORGANIZATION

The department consists of an administrative section and 4 components:

1. Histopathology Laboratories
2. Tri-Service School of Histotechnology
3. Electron Microscopy (SEM, TEM) Laboratories
4. Immunohistochemistry Laboratory

STAFF

Professional/Scientific:

Glenn D. Sandberg, LTC, MC, USA, Chair
Lester Thompson, MD, DA, GS, Associate Chair

Administrative/Technical:

Arnicia E. Downing, Chief, Scientific Labs
Efrain Perez-Rosario, Chief, Electron Microscopy Laboratory
Everett Golihew, Administrative Assistant

GOALS

1. To support the United States Department of Defense's readiness for joint operations.
 - Support the Institute's staff in programs aimed at increasing readiness for joint operations.
2. To assist in the provision of top-quality, cost effective health care benefits.
 - Facilitate minimum specimen turnaround time, while maintaining a superior product.
 - Provide timely technical and scientific services specific to the needs of each department's consultative mission.
 - Continue the laboratory renovation program.
 - Continue to implement quality control and improvement.
 - Continue to provide microslides of excellent diagnostic quality from cases that meet agreed-upon restrictions within established turnaround times.
 - Expand services to assist Tri-Care.
 - Pursue methods that conserve resources and eliminate duplication of task.

- Install system to bar-code and track disposed chemicals.
 - Test and evaluate prepared staining solutions.
3. To assist in the development of military and civilian health care leaders.
 - Facilitate the presentation and quality of academic courses.
 - Support increased attendance, sponsorship, and offering of off-site courses.
 - Provide high-quality training by recruiting interdepartmental and interdivisional faculty from among the department and AFIP.
 - Support the recruitment and selection of civilian and military students to maintain a maximum student body and an appropriate military/civilian mix.
 - Support the AFIP's production of an interactive CD-ROM for Basic and Advanced Laboratory Methods in Histotechnology and Immunohistochemistry.
 - Prepare study sets of superior quality.
 - Expand the current continuing education program to include outside speakers on various topics.
 - Train more visiting technicians and pathologists.
 - Involve more technicians in the Annual Histopathology Seminar and invite more guest lecturers and vendors to participate.
 - Present the Histology Course statewide and internationally.
 - Revise course chart, lesson plans, and other instructional materials to reflect newly expanded program.
 - Purchase updated instructional texts.
 - Expand military and academic training for nonprior-service (NPS) students attending the new course.
 - Cross-train transmission electron microscopy technician in the use of analytical scanning microscopy methods and facilities.
 - Cross-train department personnel in electron microscopy and immunohistochemistry technology.
 - Present lectures in transmission electron microscopy and analytical scanning microscopy to AFIP staff and other personnel.
 - Build a reference library for the transmission electron microscopy laboratories.
 - Ensure that technicians become HT-certified.
 4. To develop innovations and validate applications of new technologies.
 - Support research protocols, presentations, and publication of results.
 - Assist Institute investigators in their development of innovations and new technologies.
 - Research and develop new methodologies that are safer and reduce case turnaround time.
 - Assist with the evaluation of distilled xylene to minimize hazardous wastes.
 - Enhance and use new technology in transmission electron microscopy.
 - Evaluate state-of-the-art equipment that will enhance the application and diagnostic evaluation of consultative cases.
 - Acquire a new scanning electron microscope with add-on technology.
 - Refine methodologies for antigen detection, automation, and more sensitive detection methodologies.
 - Utilize molecular and immunology techniques for cellular proliferation, cell signaling, oncogene and suppressor gene products, and adhesion molecules.
 - Bring online an expanded antibody menu performed in nontraditional fixatives.



Arnica E. Downing
Laboratory Chief
Date of Appointment—23 September 1991



HISTOPATHOLOGY LABORATORIES

MISSION

The Histopathology Laboratories provide histotechnical support and expertise to the pathology departments of the AFIP, and training in histotechniques to visiting professionals and technologists. To insure that the laboratories are capable of fully meeting their mission, the staff of the College of American Pathologists are invited to inspect every aspect of the operation of the laboratories.

STAFF

- Rossana Bailey, DAC, Histopathology Technician
- (A) George Barbour, HM1, Histopathology Technician
- (D) Timothy Barron, HM2, Histopathology Technician
- Betty Beal, VAMC, Histopathology Technician
- Mildred Benton, ARP, Histopathology Technician
- Freda Blake, VA-7, Histopathology Technician
- Romeo Boodhoo, HM3, Histopathology Technician
- Todd Brown, SGT, USA, Histopathology Technician
- Robert Calvo, HM2, Histopathology Technician
- Mel Castro, DAC, Histopathology Technician
- Karma DaCosta, HM1, USN, Histopathology Technician
- (A) Timothy Davidson, USAF, Histopathology Technician
- Mary Dyson, ARP, Histopathology Technician
- Monte Grace, HM2, Histopathology Technician
- Zahaitu Harvey, ARP, Histopathology Technician
- Francine Hincerick, DAC, Histopathology Technician
- Shirley V. Horton, ARP, Histopathology Technician
- Brian Johnson, SSgt, USAF, Histopathology Technician
- Ingrid Jones, DAC, Histopathology Technician
- Clementine Kelson, ARP, Histopathology Technician
- Joseph Kemer, SPC, USA, Histopathology Technician
- Wanda King, ARP, Histopathology Technician
- Langston Lim, SSgt, USAF, Histopathology Technician
- Charles Lattany, SSgt, USAF, Superintendent
- (A) Wilbur Maravilla, ARP, Histopathology Technician
- (A) Alejandro Morales, HM1, Histopathology Technician
- Debra A. McElroy, DAC, Branch Chief
- Warren McNeil, DAC, Histopathology Technician
- (D) Marco Mendoza, HM3, Histopathology Technician
- Myra Miller, DAC, Histopathology Technician
- Barbara Norfleet, DAC, Histopathology Technician
- (A) Oliver Onyebuchykwu, ARP, Histopathology Technician
- Verna Pinkett, DAC, Histopathology Technician
- Michael Proctor, DAC, Histopathology Technician
- Juanita Rogers, ARP, Histopathology Technician
- Joseph Rosamont, VA-11, Histopathology Technician
- Christian Sepulveda, TSgt, USAF, Histopathology Technician
- Blair Slaughter, ARP, Histopathology Technician
- (D) Ellen Slaughter, DAC, Histopathology Technician

Blondell Smith, DAC, Histopathology Technician
 Paul Smith, ARP, Histopathology Technician
 (A) Michael Taylor, USAF, Histopathology Technician
 Stacey Tamer, ARP, Histopathology Technician
 Michael Vick, HM2, USN, Histopathology Technician
 Jack B. Wenger, DAC, Branch Chief
 Julia Wilson, DAC, Program Director
 Robert Wilson, DAC, Histopathology Technician

DIAGNOSTIC CONSULTATION

The Histology Laboratories consist of a combined Specialty Laboratory (veterinary, ophthalmic, orthopedic, neuropathology), a Special Stains Laboratory, and 2 combined general histology laboratories (Consultative, Research and Education). The laboratories are organized to allow a STAT laboratory to handle consultative cases and a Research and Education Laboratory to provide services for research and education projects. This organization has significantly reduced turnaround time and distributed the workload more equitably throughout the laboratories.

In 2002, 31,447 cases were completed, requiring the following procedures and special stains:

- Blocks cut: 44,725
- H&E stains: 97,964
- Special stains: 30,885
- Frozen sections H&E: 560
- Plastic sections stained: 1,712
- Whole mounts stained: 109
- Whole mount slides: 230
- Unstained slides: 213,507
- Glue slides: 95,219
- Total slides prepared: 439,956
- Specimens decal: 1,282
- Specimens x-ray: 1,467

Quality Assurance:

Laboratory personnel served on 3 CAP Inspection Teams in 2002:

1. Delegate to the National Society of Histotechnology
2. Quality Assurance Committee
3. Safety Committee

EDUCATION

Presentations and Courses: Laboratory staff presented 60 didactic hours to participants in the Tri-Service School of Histotechnology. In addition, several staff members lectured at state and regional professional meetings. Division staff made presentations at Weekly Professional Staff Conferences.

Training: Department staff provided over 2,400 hours of training to visiting pathologists and technologists in a variety of laboratory techniques, including eye histotechnology, special staining methods for infectious organisms, and Warthin-Starry procedures for melanin and bacteria. We also provided orientation and advanced training to 4 civilians and 25 incoming military personnel.

Educational Aids: Our laboratories prepared thousands of microslides for AFIP pathologists, consisting mainly of teaching and study sets to be used at professional meetings.

RESEARCH

Publications: Articles on modifications to histopathology laboratory procedures were submitted for publication in all editions of the AFIP Letter.

Projects: Our laboratories provided technical support for all approved research projects. Cost estimates are now prepared based on CAP's workload unit costs, which include technician time, materials, and equipment.

This year, several manufacturers were invited to demonstrate technical equipment that has significantly advanced histology microslide production, including robotic stainers and coverslippers, improved warming tables, and cryostats. These items were evaluated by department staff and were available for inspection and trial by AFIP departments.

OTHER ACCOMPLISHMENTS

Tasks: Members of the division performed the following assignments in 2002:

- Ash Lecture Ushers
- Histopathology Occupational Survey
- Dover Deployment

Volunteer Activities:

- Combined Federal Campaign Key Person
- AFIP Clothing/Food Drives
- Share Program
- National Prayer Breakfast



Charles Lattany, III, SSgt, USAF
Course Superintendent
Date of Appointment—September 1996



Julia Wilson, BS, HT (ASCP)
Program Director
Date of Appointment—March 1997



TRI-SERVICE SCHOOL OF HISTOTECHNOLOGY

MISSION

The Tri-Service School of Histotechnology provides formal training to military and civilian students in the technical operations of anatomic pathology, as applied to histopathology laboratory and postmortem procedures.

EDUCATION

Accreditation: The Tri-Service School of Histotechnology was accredited in 1997 by the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS), a nonprofit organization that independently accredits histotechnology instructional programs. NAACLS is sponsored by the American Society of Clinical Pathologists (ASCP) and the American Society for Clinical Laboratory Sciences (ASCLS). Participants include the National Society of Histotechnology (NSH) and the Association of Genetic Technology (AGT). In 2001, NAACLS awarded our school a 5-year accreditation, which is valid through October 31, 2007. A self-study report will be due in fall 2006, and a site visit will be required in spring 2007.

The school convenes annually and consists of 180 training days. It includes instruction in the theory and application of histotechnology, practical training in processing, cutting and staining of tissue specimens, and assisting in postmortem examinations. The course is administered by the Department of Scientific Laboratories and is coordinated through the School of Health Care Science at Sheppard AFB in Texas and the Naval School of Health Sciences at the National Naval Medical Center, Bethesda, Md. The school is also affiliated with the Department of Anatomic Pathology at Walter Reed Army Medical Center and Malcolm Grow Medical Center, Andrews AFB.

Graduates of the Tri-Service School of Histotechnology are awarded certificated and AFSC 4T032 (Air Force) and NEC 8503 (Navy) classification codes. The Army currently has no histotechnician career field classification. Graduates may apply to take the certification exam as histologic technicians through the American Society of Clinical Pathologists, HT (ASCP).

Trainees:

Navy	5
Air Force	4
Civilian	1

WORKLOAD COMPLETED

Blocks cut	1,235
H&E	3,801
Special stains	302
Unstained slides	5,005
Total	9,222



Efrain Perez-Rosario
Chief
Date of Appointment – August 1991

**ELECTRON MICROSCOPY LABORATORY****MISSION**

The Electron Microscopy Laboratory provides technical and scientific services to the departments of the Armed Forces Institute of Pathology, supporting the professional staff in consultation, research, and education using advanced technology in transmission electron microscopy (TEM), scanning electron microscopy (SEM), and scanning transmission microscopy (STEM). As of August 2002, the Neuromuscular Laboratory is no longer part of the Department of Scientific Laboratories. They provided scientific and technical services to the Division of Neuromuscular Pathology, using histochemistry STEM for histotechnical analysis of such specimens.

STAFF

Efrain Perez-Rosario, Chief
Francine Hinchrick, Research Biologist
Joseph Rosamont, Histologist
(A) Mel Castro, DAC, Histopathology Technician
(A) Alejandro Morales, HM2, Histopathology Technician
(A) Jane Williams, ARP, Research Biologist

DIAGNOSTIC CONSULTATION

The EM laboratories have 2 high-resolution (ZEISS-10A) electron microscopes and a scanning transmission electron microscope with an x-ray analyzer. We also have a new scanning electron microscope (ZEISS DSM 960A) with energy dispersive x-ray analyzer.

Transmission Electron Microscopy:

Cases received	494
Cases completed	492
Total blocks cut	3,186
Total grids cut	2,496
Total pre and post slides cut	2,496
Total film developed	5,385 negatives
Total prints made	19,145

EDUCATION

Laboratory staff trained 4 fellows in electron microscopy techniques, for a total of 240 trainee-days.



Lester Thompson, LCDR, MC, USN
Division Chief
Date of Appointment – March 1998



IMMUNOPATHOLOGY LABORATORY

MISSION

The Immunopathology Laboratory provides state-of-the-art immunohistochemical staining in support of diagnostic and prognostic markers in case consultation and Institute research. Our secondary mission is to develop advanced tissue diagnostic techniques.

STAFF

Administrative/Technical:

- Gayle Andre, DAC, Branch Chief
- (A) Lawrence Faucette, HM1, Supervisor
- (D) Barbara Norfleet, DAC, Lead Technician
- Wanda King, ARP, Histopathology Technician
- Stacey Tamer, ARP, Histopathology Technician
- (D) Juanita Rogers, ARP, Histopathology Technician
- Todd Brown, SSgt, Histopathology Technician

WORKLOAD COMPLETED

Immunology cases	12,217
Consultation slides	75,246
Education slides	520
Research slides	1,034
Control slides	16,417
TOTAL.....	93,217

Laboratory staff developed alternate methods to increase turnaround time and utilize 6 new Benchmark automated immunostainers. We also developed the following new immunohistochemical assays:

1. CD4
2. CD7
3. CD8
4. BCL-1
5. Melan A
6. Tyrosinase
7. Myeloperoxidase
8. H-caldesmon
9. Double stain kappa/lambda

EDUCATION

Division staff provided instruction in testing methodologies to outside laboratories and numerous interpretive consultations to AFIP pathologists.

■ GROUP 4

ENVIRONMENTAL MEDICINE

ENVIRONMENTAL & TOXICOLOGIC
PATHOLOGY

INFECTIOUS & PARASITIC DISEASES
PATHOLOGY

RADIOLOGIC PATHOLOGY

VETERINARY PATHOLOGY





Florabel G. Mullick, MD, ScD, SES
Chair
Date of Appointment—27 June 1996



DEPARTMENT OF ENVIRONMENTAL AND TOXICOLOGIC PATHOLOGY

MISSION

The Department of Environmental and Toxicologic Pathology conducts consultation, education, and research in environmental, drug-induced, and radiation pathology, and in the development, implementation, and application of toxicological techniques (biochemical, physical, and chemical) to analyze tissues and to determine causes of injury to human and other animal tissues.

ORGANIZATION

The department is organized into 5 divisions, a branch for the coordination of educational and research activities, a branch dedicated to consultation and research on mutagen and radiation cell-culture, and the Office of the Chair.

Division of Biochemical Pathology – William N. Fishbein, MD, PhD, Chief

Mutagen and Radiation Cell Culture Branch – William N. Fishbein, MD, PhD, Chief

Division of Biophysical Toxicology – José A. Centeno, PhD, Chief

Division of Chemical Pathology – Frank B. Johnson, MD, Chief

Division of Environmental Pathology – Michael R. Lewin-Smith, MD, Chief

Division of Environmental Toxicology – Victor F. Kalasinsky, PhD, Chief

STAFF – OFFICE OF THE CHAIR

Medical:

Florabel G. Mullick, MD, ScD, SES, Chair

(A,D) Elena R. Ladich, MD, Nelson S. Irey Environmental Fellow, ARP

(A) Elizabeth Meza, MD, Callender-Binford Fellow, ARP

Scientific:

José A. Centeno, PhD, Chief, Education and Research Programs Branch

(D) Norbert P. Page, MS, DVM, Administrator (INTOX) and Consultant in Toxicology, ARP

Administrative:

Kim Knight, Administrative Officer, ARP

Ana Erica Revelo, Administrative Assistant, ARP

Clarence Williams, MSG, MS, MSM, NCOIC

DATABASES AND SPECIAL COLLECTIONS

The department continued to develop the International Data Center for Toxic Lesions (INTOX) in humans and animals, which is composed of the following databases:

- Tissue Reactions to Drugs
- Breast Explants and Bioimplantable Materials

- Environmental Toxins
- International Tissue and Tumor Repository on Chronic Arseniasis
- Kuwait/Persian Gulf
- Former Prisoners of War
- Radiation Database
- Agent Orange
- Medical Geology

DIAGNOSTIC CONSULTATION

The department received 4,059 new cases for consultation in 2002 and consulted on 76 intramural cases. See division reports for details.

Quality Assurance:

The department subscribes to several proficiency test programs of the College of American Pathologists (CAP) and the US Environmental Protection Agency (USEPA):

- Division of Biophysical Toxicology: 3 proficiency tests (CAP); 2 proficiency tests on environmental lead (American Industrial Hygiene Association)
- Division of Environmental Toxicology: 2 proficiency tests (CAP); 2 NIST intercomparison exercises

As part of the AFIP's Quality Assurance Program, the Division of Environmental Pathology reviewed 303 autopsy, surgical, and cytology cases in 2002 (MR Lewin-Smith, C Specht). In addition, the Division of Environmental Toxicology (VF Kalasinsky) reviewed 74 cases as part of the Quality Assurance Program.

EDUCATION

Presentations and Seminars: Department personnel made 33 presentations at professional meetings and invited seminars. See division reports for complete lists of dates and titles.

Courses: The department organized 5 short courses ("Metals, Health and the Environment") in collaboration with the ARP, US Geological Survey, UNESCO, and the International Union of Geological Sciences. These courses and workshops were attended by approximately 330 attendees for a total of over 2,070 man-hours.

RESEARCH

Publications: Department staff published 14 journal articles, 3 book chapters, and 24 abstracts in 2002. See division reports for complete references.



William N. Fishbein, MD, PhD
Chief
Date of Appointment – September 1965



DIVISION OF BIOCHEMICAL PATHOLOGY

MISSION

The Division of Biochemical Pathology provides consultation, education, and research in biochemical and molecular pathology and environmental toxicology, with particular emphasis on genetic influences and interactions.

STAFF

Medical:

William N. Fishbein, MD, PhD

Scientific:

(A) Sunday Ogunwuyi, PhD, Research Microbiologist
Natasha Merezinskaya, PhD, Research Biologist
Clarence Williams, MSG, MS, MSM, Cell Biologist

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Civilian	21

Consults involve differential diagnosis of suspected metabolic or inherited disease, and involve prolonged cell culture, UV irradiation, and further culture and quantitation of growth or other indicators of DNA repair. A positive result, indicating defective repair, often leads to further study of the gene and mutation involved by a collaborating laboratory proficient in that field.

Specialized Consultative Capabilities: The division provides a number of specific assays that are rarely available elsewhere, including:

1. Lactate/Ammonia Dynamometer Exercise Test to evaluate muscle strength and fatigueability, and several potential contributory enzyme defects when performance is subnormal. Subjects: inductees with inadequate training performance, muscle pain, etc.
2. Muscle Carnitine Palmityl (and Acetyl) Transferase Assays to rule out/in deficiency of this enzyme, a rare but important cause of poor performance or attacks of rhabdomyolysis. Subjects: as above.
3. Enzymatic tri-enzyme assays in frozen muscle biopsies of adenylate deaminase and kinase, and creatine kinase for the definitive diagnosis of myo-adenylate deaminase deficiency (mADD). Subjects: suspected cases due to deteriorating athletic performance, etc.
4. Enzymatic stain for mADD. This procedure, developed in our laboratory, is now performed in the AFIP muscle lab and around the world to screen for mADD. Subjects: routine screening for patients undergoing frozen muscle biopsy for diagnosis.
5. PCR assay of fresh or frozen blood for the major paired mutation in the AMPD1 gene. This permits the diagnosis of mADD or its carrier state without recourse to muscle biopsy. Subjects: as in number 3 above.
6. Localization of the 3 major lactate transporters (MCT1,2,4) in frozen muscle biopsies. Still in the research phase, employing fluorescence microscopy, this procedure will eventually be adapted to light microscopy for wider use if it proves to be a worthwhile addition to the diagnosis/exclusion of minimal denervation or other early-stage muscle disease.
7. Chromosome 7 Inversion Frequency assay to assess genomic instability in environmentally exposed and/or genetically susceptible cohorts (or individuals). Subjects: Gulf War veterans; autoimmune disease; arsenic or heavy-metal exposure, etc.
8. Skin fibroblast culture and UV irradiation followed by quantitative assessment of DNA damage repair by several different parameters to evaluate the likelihood of mutations in one of the many genes involved in nucleotide excision repair. See New Mission below.

EDUCATION

Presentations and Seminars: Division staff made 2 presentations at meetings and conferences in 2002, representing over 160 man-hours. Dates and titles are listed at the end of this report.

Trainees: The division provides informal training to junior fellows, visiting scientists, students, and staff members undertaking or analyzing experimental research involving molecular biology, spectrophotometry, high-performance liquid chromatography, enzyme stains and assays, electrophoresis, and ultracentrifugation.

RESEARCH

Publications: Division staff published 4 research articles and 1 abstract in 2002. Full references are given at the end of this report.

Projects: The division pursued 4 major research projects in 2002:

1. Mutations in the Human Monocarboxylate Transporter
2. Assessment of Genomic Instability via Chromosome 7 Inversions
3. Presence and Localization of the Lactate Transporter

4. Presence and Quantitation of Lactate/Pyruvate Transporters in Human Tissues

OTHER ACCOMPLISHMENTS

Committees:

Editorial Boards:

Journal of Biomedicine and Biotechnology, Associate Editor, WN Fishbein

Manuscripts Reviewed:

1. *Muscle and Nerve* (1)
2. *International Journal of Sports Medicine* (1)
3. *Journal of Neuromuscular Diseases* (1)

Offices/Committee Memberships in National or International Societies:

Member, NASA Workshops I-VI for Mars Sample Return Handling Protocols and Final Drafts, WN Fishbein.

New Mission: With the untimely death of Dr. David Busch in April 2002, Dr. Fishbein was tasked with taking over the Mutagen and Radiation Cell Culture Branch, with its procedures for testing candidate patients' capacity for repairing UV light-induced DNA damage, as an assay for several uncommon and destructive genetic diseases. Over the remaining 8 months, this has come to occupy most of Dr. Fishbein's time and effort.

Official Trips (funding agency in parentheses):

April 2002, Experimental Biology International Meeting, New Orleans, La, WN Fishbein (AFIP).

PRESENTATIONS

April 2002: New Orleans, La, Experimental Biology International Meeting, Lecture and Poster Presentation, "Localization of three monocarboxylate transporters (MCT1,2,4) in frozen human skeletal muscle," WN Fishbein.

PUBLICATIONS

Journal Articles

Fishbein WN, Merezhinskaya N, Foellmer JW. Relative distribution of three major lactate transporters in frozen human tissues and their localization in unfixed skeletal muscle. *Muscle Nerve*. 2002;26:101-112.

Abstracts

Fishbein WN, Merezhinskaya N, Foellmer JW. Localization of three monocarboxylate transporters (MCT1,2,4) in frozen human skeletal muscle. *FASEB*. 2002;16:A776.

Other Publications:

1. Fishbein WN. Adenylate deaminase. In: *Wiley Encyclopedia of Molecular Medicine*. Vol 1. New York, NY: John Wiley & Sons; 2002:73-76.
2. Fishbein WN. Myoadenylate deaminase. In: *Wiley Encyclopedia of Molecular Medicine*. Vol 3. New York, NY: John Wiley & Sons; 2002:2187-2190.
3. Merezhinskaya N, Fishbein WN. Monocarboxylate transporters. In: *Wiley Encyclopedia of Molecular Medicine*. Vol 3. New York, NY: John Wiley & Sons; 2002:2119-2123.

GOALS

1. Bring the cell culture procedures up to the best standard. We have been beset by multiple problems and are far from our goal of analyzing several cases per month.
2. Complete research on the presence of 3 major lactate transporters in human white blood cells.



José A. Centeno, PhD
Chief
Date of Appointment – October 2001



DIVISION OF BIOPHYSICAL TOXICOLOGY

MISSION

The Division of Biophysical Toxicology conducts consultation, education, and research in environmental toxicology, health effects, and analysis of trace elements, toxic metals, and minerals. It develops chemical and biophysical techniques for the characterization of these materials in human and other animal tissues, with particular emphasis on elemental composition and chemical/toxicological speciation.

STAFF

Scientific:

- José A. Centeno, PhD, Chief
- John W. Ejniak, LT, USN, PhD, Senior Staff Scientist (Biochemist)
- (D) Norbert Page, MS, DVM, Administrator and Consultant in Toxicology, ARP
- (D) Ken Capps, CPT, USA, PhD, Clinical Research Associate, WRAMC
- (A) Todor Todorov, PhD, Postdoctoral Research Associate
- (A) Monica Torres, MPH, Environmental Chemistry Technician
- (A) Zorimar Rivera, MPH, Research Associate
- (D) Susan Maharaj, PhD, Jackson Foundation Postdoctoral Fellow
- (D) Jessica Caplan, BS, Environmental Chemistry Technician
- (D) Mariam Serra, BS, Research Assistant

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	53
Army (43)	
Navy (4)	
Air Force (6)	
Federal	14
VA (11)	
OFA (3)	
Civilian	23
Interdepartmental	18
Total	108

The above cases were studied employing the following techniques:

- Scanning electron microscopy with energy dispersive x-ray microanalysis: 8
- Confocal Raman microprobe analysis: 8
- Infrared microspectroscopy analysis: 8
- Microwave digestion
- Trace element and toxic metals analyses by ICP and graphite furnace atomic absorption: 80
- Mercury analysis: 2
- Chemical and isotopic speciation analysis of depleted uranium by ICP-MS: 43 specimens

Impact:

1. The division is conducting a program on the archiving, consultation, and biophysical studies of silicone breast explants and bioimplantable materials. This database has an extensive collection of published literature, CDs, and patents for materials used in the manufacture of silicone breast implants and other biomedical devices.
2. The division has developed and maintains the International Tissue and Tumor Repository for Chronic Arseniasis, with the partial support of 3 other federal agencies (USEPA, National Cancer Institute, and National Institute of Environmental Health Sciences). This repository serves as a centralized facility for collecting, archiving, and studying tissue specimens from populations chronically exposed to arsenic. In 2002, the repository consisted of 135 clinical cases submitted to the AFIP for consultation, 57 cases (with paraffin blocks and slides) from an arsenic-exposed population in Torreon, Mexico, and 1,668 placental and clinical samples from Chile on which arsenic speciation analysis has been conducted.
3. The division has developed and maintains the only DoD Registry on Medical Geology, with partial support from national and international organizations including the US Geological Survey, UNESCO, and the International Union of Geological Sciences. This registry is aimed at the study of the distribution of geological and environmental factors (lead, mercury, fluoride, cadmium, arsenic and other toxic metals) and their contribution to the development of health problems in man and other animals.
4. The division served as the central laboratory for developing clinical uranium analysis in biological tissues and fluids by employing inductively coupled plasma with mass spectrometry capabilities.
5. The division served as the central facility for the development of a repository for the archiving and chemical analysis of depleted uranium-related specimens.
6. The division performed quantitative analysis and isotopic speciation on 16 control urine samples and 27 control semen samples in support of the Depleted Uranium Follow-up Program, VA Maryland Health Care System, Baltimore, Md.
7. The division obtained research funds for the development of a Chemical Analysis and Quality Assurance Unit for the study of complementary medicine preparations of military relevance (MIL-CAM).
8. In collaboration with the Centers for Disease Control and Prevention and many other federal and state government agencies, division staff collaborated on the development of strategic plans for the establishment of a Federal Laboratory Response to Chemical Terrorism, dealing with the potential use of chemical agents.
9. In collaboration with the Navy Health Research Center in San Diego, the VA, and the State University of New York, the division collaborated on the development of an occupational lung disease program, with particular focus on Navy personnel exposed to dust aboard ship. Quantitative (morphometric analyses) measurements employing SEM-EDXA and light microscopy were made for over 15 cases with a diagnosis of sarcoidosis, in collaboration with the Department of Pulmonary Pathology.

Deployments:

JA Centeno:

1. June 12-13, 2002, Centers for Disease Control and Prevention, Atlanta, Ga. Strategy meeting on the coordination of federal laboratory response to chemical terrorism.
2. Washington, DC. Monthly meetings of the USEPA-Interagency Testing Committee (TOSCA),.

JW Ejnik:

June 2, 2002, Baltimore, Md. Depleted Uranium Follow-up Program, VA Maryland Health Care System.

Quality Assurance:

1. The division successfully participated in 3 CAP proficiency testing programs and 4 proficiency testing programs on environmental lead, sponsored by the American Hygiene Association.
2. The division prepared reference materials for an interlaboratory quality assurance program on depleted uranium analysis in urine and semen, and successfully validated analytical methods for quantitative analysis of total uranium levels in urine and semen, as well as isotopic uranium analysis in urine samples.

3. The division conducted toxic metals quality assurance analyses of water in support of the quality assurance program for the AFIP DLAM facilities and the AFIP Safety Office.

EDUCATION

Presentations and Seminars: Members of the division presented 15 invited lectures representing over 650 man-hours. Dates and titles are listed at the end of this report.

Courses: In collaboration with the Education and Research Programs Branch, division staff organized 5 AFIP short courses and gave a total of 26 lectures. These activities had a total of 330 attendees for approximately 2,070 man-hours. The following AFIP short courses were offered in 2002:

1. Short course on medical geology, "Metals, health and the environment," sponsored by University of Santiago, Chile. April 10-12, 2002, JA Centeno.
2. Invited seminar and short course, "Health effects, environmental toxicology and chemical analysis of trace toxic metals," sponsored by University of Concepcion, Concepcion, Chile. April 15-16, 2002, JA Centeno.
3. Short course, "Metal ions and other elements in environmental health and disease," St. Petersburg State University and Academy of Sciences of Russia, St. Petersburg, Russia. May 8, 2002, JA Centeno.
4. Short course, "Topics on environmental pathology and epidemiology of toxic metal ion exposures," St. Petersburg State University and Academy of Science of Russia, St. Petersburg, Russia. May 8, 2002, JA Centeno.
5. Symposium on environmental pathology, 24th International Congress of the International Academy of Pathology, Amsterdam, The Netherlands. October 5-10, 2002, JA Centeno.
6. "Metals, health and the environment," sponsored by Japanese Society of Geo-Pollution and Japanese Center for Environmental Studies, Ibaraki University, Chiba, Japan. November 16-21, 2002, JA Centeno.
7. Short course on medical geology, "Metals, health and the environment," sponsored by National Natural Science Foundation of China, China University of Mining and Technology, and Chinese Academy of Sciences, Beijing, China. November 25-26, 2002, JA Centeno.

Trainees: During 2002, division staff provided training to:

- One postdoctoral fellow from USUHS: environmental and biophysical toxicology methods.
- One Callender-Binford pathology fellow: environmental pathology, toxicology and analysis of tissues from arsenic poisoning cases.
- One postdoctoral fellow from the Department of Clinical Investigations, WRAMC.
- One summer student from the AFIP SEAP High School Program: 8 weeks in the laboratory training on microprobe methods and the identification/characterization of silicate materials in tissues and environmental samples.

RESEARCH

Publications: Division staff published 6 journal articles and 14 abstracts in 2002. Complete references are listed at the end of this report.

Projects: The division conducted and/or collaborated on the following AFIP approved research projects.

Principal Investigator: JA Centeno

1. Histopathologic and Laser Raman Microprobe Analysis of Regional Lymph Nodes from Patients with Silicone Breast Implants.
2. Development of the International Tissue and Tumor Repository for Chronic Arseniasis.
3. Platinum Concentration and Speciation in Silicone Breast Explants and Corresponding Connective Tissues by Inductively Coupled Plasma-Mass Spectrometry and Laser Raman Microscopy.
4. Sarcoidosis and Occupational Lung Disease Quality Assurance Program.
5. Dietary and Occupational Risk Factors for Prostate Disease in Different Ethnic Groups.
6. EPR Spin Labeling Measurements of Nuclear, Chemical, and Biological Agent-Induced Alterations of the Insulin Receptor in Red Blood Cell Membranes: A Possible Biomarker for Dose Assessment (*completed and closed in 2002*).

Principal Investigator: JW Ejnik

In Vivo Studies of the Comparison of Biokinetics between Implanted Tungsten and Depleted Uranium in Rats: A Pilot Study.

In Collaboration with Other Divisions within the Department:

The Anatomic Pathology of Former Prisoners of War, Division of Environmental Pathology.

In Collaboration with the Department of Toxicology, University of Maryland, Baltimore:

research program to study low levels of depleted uranium in tissues and body fluids from exposed service personnel.

In Collaboration with National and International Organizations:

1. Body Cadmium Overload and Prostate Cancer Aggressiveness – Andre K. Balla, Department of Pathology, Medical College of Wisconsin.
2. Effects of Low and Ultra-Low Doses of Cadmium in RWPE-1 Prostate Cells – Wayne B. Jonas, USUHS.
3. Complex Homeopathy Drug Development in Neurodegenerative Diseases – Wayne B. Jonas, USUHS.
4. Chronic Arsenic Exposure from Drinking Water and Reproductive Effects – Claudia Hopenhayn, University of Kentucky; H Gibb, USEPA.
5. Geology and Health: Health Impacts of Coal and Coal Use – Robert B. Finkelman, US Geological Survey.
6. Environmental Health Research in China: A Consortium between AFIP, Western Kentucky University, US Geological Survey, and USEPA – Chris Groves (WKU), Robert B. Finkelman (USGS).
7. Mining-Related Environmental and Human Health Issues – Jack Medlin and Geoff Plumlee, US Geological Survey.

Research Funds Received: In 2002, non-AFIP research funds were received as part of inter-agency agreements developed through collaborative projects, including:

1. IAG with the FDA Division of Mechanics and Material Sciences – \$10,000
2. IAG with the NCI, USEPA – \$100,000
3. IAG funds from the Naval Health Research Center in support of an occupational health study on sarcoidosis – \$85,000

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. USUHS, Department of Pediatric Medicine, Dr. Jeffrey Longacre
2. WRAMC, Plastic Surgery Clinic Services, Dr. Daniel Jorgenson
3. US Naval Health Research Center, San Diego, Calif, Dr. Edward Gorham, Dr. Frank Garland
4. Depleted Uranium Follow-up Program, VA Maryland Health Care System, Baltimore, Md, Dr. Melissa McDiarmid, Dr. Katherine Squibb
5. National Cancer Institute, Chemical and Physical Carcinogenesis Branch, Dr. David Longfellow, Dr. Ken Cantor
6. National Institute of Environmental Health Sciences, Research Triangle Park, Dr. Claudia Thompson
7. US Geological Survey, Reston, Va, Dr. Robert Finkelman, Dr. Geoffrey Plumlee
8. National Center for Environmental Assessment, USEPA, Dr. Herman Gibb
9. FDA, Center for Devices and Radiological Health, Division of Mechanics and Materials Science, Dr. William F. Regnault

Civilian:

1. Samueli Institute of Information Biology, development of military-relevant complementary alternative medicine (MIL-CAM), Dr. Wayne B. Jonas
2. Medical College of Wisconsin, Department of Pathology, cadmium and prostate cancer, Dr. Andre Balla
3. University of Kentucky, Department of Preventive Medicine, developmental effects of chronic arsenic exposure, Dr. Claudia Hopenhayn
4. Jackson State University, Jackson, Miss, Dr. Paul Tchounwou, Dr. Abdul Mohamed
5. University of Turabo, Caguas, PR, Dr. Dennis Alicea

6. Universidad Metropolitana, San Juan, PR, Dr. Federico Matheu
7. Michigan State University, East Lansing, Mich, Dr. Karen Chou

International:

1. University of Otago, Wellington School of Medicine, Wellington, NZ, cadmium and prostate cancer, Dr. David Slaney, Marion Gray
2. University of Western Australia, School of Public Health, health effects of toxic metals, Dr. Philip Weinstein
3. Geological Survey of Sweden, medical geology, Dr. Olle Selinus
4. Institute Nazionale di Sanita, Rome, Italy, speciation of trace elements, Prof. Dr. Sergio Caroli
5. National Taiwan University Hospital, Taipei, Taiwan, arsenic health effects, Prof. Dr. Chin-Hsiao Tseng
6. Academia Sinica and Institute of Environmental Geochemistry, China, medical geology and health effects of toxic trace elements, Prof. Dr. Baoshan Zheng

Honors:

JA Centeno:

Guest Professorship, China University of Mining and Technology, Beijing, China
Certificate of Attendance, 2002 International Geoenvironment and Medical Geology Workshop, Ibaraki University, Chiba, Japan

Committees:

Editorial Boards:

JA Centeno:

1. *Toxicologic Pathology*
2. *Biological Trace Element Research*

Manuscripts Reviewed:

JA Centeno:

1. *Biological Trace Element Research* (1)
2. *Environmental Health Perspectives* (2)
3. *Environmental Toxicology* (1)
4. *International Journal of Molecular Sciences* (1)
5. *Environmental Geochemistry and Health* (1)
6. *Analytical and Bioanalytical Chemistry* (1)
7. *Archives of Pathology and Laboratory Medicine* (1)

Offices and Committee Memberships in National or International Societies:

JA Centeno:

1. Member (Alternate), TOSCA Interagency Testing Committee (ITC), USEPA, Washington, DC (1998-Present).
2. Member, International Working Group on Medical Geology (2000-Present).
3. Member, External Advisory Committee-NIH Research Centers for Minority Institutions, Jackson State University, Jackson, Miss (1997-Present).
4. Member, US Presidential Advisory Board on Health, Sciences, Math and Engineering, Ana G. Mendez University System of Puerto Rico, San Juan, PR (1995-Present).
5. Member, External Advisory Committee, National Science Foundation STARGE Program at Jackson State University, Jackson, Miss (1999-Present).
6. Member, External Advisory Board, National Science Foundation Minority Institutions of Excellence Program, Metropolitan University, San Juan, PR (1999-Present).
7. Member, International Scientific Committee, International Conference on Trace Element Speciation in Biomedical, Nutritional and Environmental Sciences, GSF, Germany (2001-Present).
8. Member, International Scientific Committee, International Symposium on Metal Ions in Biology and Medicine (1998-Present).

Thesis Reviewed:

MSc Thesis: "Histological and immunological responses associated with susceptibility and resistance of *Biomphalaria alexandrina* to *Schistosoma mansoni* infection," Mirham Hussein

Abdulla, Department of Zoology, Faculty of Science, Cairo University, Egypt.

Faculty Appointments:

George Washington University School of Public Health, Adjunct Professor of Environmental and Occupational Health, JA Centeno.

New Missions:

1. Collaboration with the Naval Health Research Center on a federally mandated program titled "Sarcoidosis and Occupational Lung Disease Assessment Program."
2. Collaboration with the VA-Baltimore Center, development of analytical procedures for the analysis of depleted uranium in tissues and body fluids.

Public Affairs Reports and Exhibits:

1. National Museum of Health and Medicine, Washington, DC. New exhibit. Research Matters: Environmental and Toxicological Effects of Arsenic.
2. "Medical geology emerges as a new discipline," *SA Mining*. October 2002:32-34.

PRESENTATIONS

1. February 2002: Chicago, Ill, US/Canadian Academy of Pathology Annual Meeting, "Pathology of lymph nodes from patients with silicone breast implants: a histologic and spectroscopic analysis," WE Katzin, JA Centeno.
2. March 2002: Washington, DC, Howard University, "Environmental toxicology of chronic arsenic exposure: natural history and chemical speciation," JA Centeno.
3. April 2002: Boston, Mass, Geological Society of America Joint Annual Meeting, "Medical geology: a 10,000-year-old opportunity," RB Finkelman, JA Centeno.
4. April 2002: Jackson, Miss, Recent Advances in Environmental Health Research: Health Disparities, Toxicology and Carcinogenesis, "Chronic arsenic poisoning: natural history, toxicology and health effects," JA Centeno.
5. July 2002: International Congress on Ecosystem Health: Medical Geology and Human Health, "Arsenic in Bangladesh," JA Centeno.
6. July 2002: San Diego, Calif, International Conference on Arsenic Health Effects, "Exposure to arsenic in drinking water during pregnancy," C Hopenhayn, JA Centeno.
7. August 2002: Johannesburg, South Africa, Coal and the Environment: A Pre-Summit Conference to the World Summit on Sustainable Development, "Global cases of coal-related toxicology with solutions to problems: environmental and human health impacts of toxic trace elements," JA Centeno.
8. September 2002: University of Ghent, Belgium, European Arsenic Speciation Workshop, "Significance of arsenic speciation in environmental pathology," JA Centeno.
9. September 2002: Morgantown, WV, 2nd Conference on Molecular Mechanisms of Metal Toxicity and Carcinogenesis, "Arsenic toxicity, mutagenesis, and carcinogenesis: a health risk assessment and management approach," PB Tchounwou, JA Centeno.
10. October 2002: Leiden, The Netherlands, University Medical Center, Toxicology Laboratory, Department of Clinical Toxicology and Pharmacy, "Health effects and analysis of depleted uranium," JA Centeno.
11. October 2002: Leiden, The Netherlands, University Medical Center, Toxicology Laboratory, Department of Clinical Toxicology and Pharmacy, "Chronic arsenic poisoning: natural history, epidemiology and health effects," JA Centeno.
12. October 2002: Amsterdam, The Netherlands, 24th International Congress of the International Academy of Pathology, "Chronic arsenic exposure: an introduction and overview," JA Centeno.
13. October 2002: Amsterdam, The Netherlands, 24th International Congress of the International Academy of Pathology, "Health effects of depleted uranium exposure," JA Centeno.
14. November 2002: Tokyo, Japan, 12th Symposium on Geo-Environment, Geo-Techniques, and International Symposium for Geological Environment, "Geo-environmental and medical geology challenges on the Pacific Rim: the case of the Marcopper Mine, Marinduque Island, The Philippines," JA Centeno.
15. December 2002: Washington, DC, Woodrow Wilson International Center for Scholars, "Arsenic poisoning in southwest China," JA Centeno.

PUBLICATIONS

Journal Articles

1. Centeno JA, Mullick FG, Martinez L, Page NP, Gibb H, Longfellow D, Thompson D, Ladich ER. Pathology related to chronic arsenic exposure. *Environ Health Perspect.* 2002;110:883-886.
2. Centeno JA, Mullick FG, Martinez L, Gibb H, Longfellow D, Thompson C. Chronic arsenic toxicity: an introduction and overview. *Histopathology.* 2002;41:324-326.
3. Mullick FG, Pestaner JP, Ejnik JW, Centeno JA. Health effects of depleted uranium exposure. *Histopathology.* 2002;41:327-329.
4. Finkelman RB, Orem W, Castranova V, Tatu CA, Belkin HE, Zheng B, Lerch HE, Maharaj SV, Bates AL. Health impacts of coal and coal use: possible solutions. *Int J Coal Geol.* 2002;50:425-443.
5. Marotta D, Marini A, Banaudha K, Maharaj S, Ives J, Morrisette CR, Jonas WB. Non-linear effects of cycloheximide in glutamate-treated cultured rat cerebellar neurons. *Neurotoxicology.* 2002;23:307-312.
6. Orem WH, Tatu CA, Feder GL, Finkelman RB, Lerch HL, Maharaj SV, Szilagyi D, Dumitrascu V, Paunescu V, Margineanu F. Environmental geochemistry and the etiology of Balkan endemic nephropathy: lessons from Romania. *Med Biol.* 2002;9:1-10.

Abstracts

1. Katzin WE, Centeno JA, Feng LU, Kiley M, Mullick FG. Pathology of lymph nodes from patients with silicone breast implants: a histologic and spectroscopic analysis. *Mod Pathol.* 2002;15:A246.
2. Bunnell J, Finkelman RB, Centeno JA. Medical geology: a 10,000-year-old opportunity. Proceedings of the Geological Society of America Joint Annual Meeting. April 3-5, 2002, Boston, Mass.
3. Centeno JA. Chronic arsenic poisoning: natural history, toxicology and health effects. Proceedings of the RCMI 2002 Symposium on Recent Advances in Environmental Health Research: Health Disparities, Toxicology and Carcinogenesis. April 24-27, 2002, Jackson, Miss.
4. Ejnik JW, Caplan J, Serra M, Centeno JA. Arsenic speciation in biological samples using HPLC-ICP-MS. *Trace Elements Med.* 2002;3:A5.
5. Ejnik JW, Caplan J, Aufderheide AC, Centeno JA. Arsenic analysis and isotopic-lead tracers on the study of a 135-year-old body. *Trace Elements Med.* 2002;3:A32.
6. Centeno JA, Longacre J, Gibb H, Nielsen JB. Environmental pathology and exposure to toxic metals. *Trace Elements Med.* 2002;3:A3.
7. Finkelman RB, Centeno JA, Selinus O. Metal ions in environmental health and disease. *Trace Elements Med* 2002;3:A2.
8. Centeno JA. Chronic arsenic poisoning in Bangladesh and West Bengal, India. Proceedings of the International Congress on Ecosystem Health, Working Group on Medical Geology. June 7-8, 2002.
9. Hopenhayn C, Huang B, Browning SR, Peralta C, Ferreccio C, Hertz-Picciotto I, Gibb H, Centeno JA. Exposure to arsenic in drinking water during pregnancy. Proceedings of the International Conference on Arsenic Exposure and Health Effects. July 2002, San Diego, Calif.
10. Centeno JA. Global case histories of coal-related toxicology with solutions to problems. Proceedings of the World Pre-Summit Conference on Sustainable Development: Coal, Health and the Environment. August 5-9, 2002, Johannesburg, South Africa.
11. Tchounwou P, Centeno JA. Arsenic toxicity, mutagenesis and carcinogenesis: a health risk assessment and management approach. Proceedings of the 2nd Conference on Molecular Mechanisms of Metal Toxicity and Carcinogenesis. September 8-11, 2002, Morgantown, WV.
12. Centeno JA. Significance of arsenic speciation in environmental pathology. Proceedings of the International Workshop on Arsenic Speciation. September 11-12, 2002, Ghent, Belgium.
13. Centeno JA, Mullick FG, et al. Chronic arsenic poisoning: an introduction and overview. Proceedings of the 24th International Academy of Pathology. October 5-11, 2002, Amsterdam, The Netherlands.

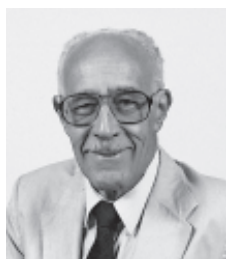
14. Centeno JA, Plumlee GS, Medlin JH, Morton RA, Boyle TP. Geo-environmental and medical geology challenges on the Pacific Rim: the case of the Marcopper Mine, Marinduque Island, The Philippines. Proceedings of the 12th Symposium on Geo-Environment and Geo-Techniques and International Symposium on Geological Environment. 2002;3:ISSN 0917-7183.

Other Publications

1. Centeno JA, Mullick FG, Martinez L, Gibb H, Longfellow D, Thompson C. Environmental pathology and health effects of arsenic poisoning. *Medical Geology Newsletter*. 2002;(5):9-12. International Working Group on Medical Geology Web site at <http://home.swipnet.se/medicalgeology/>.
2. Centeno JA, Mullick FG, Gibb H, Longfellow D, Thompson C. The International Tissue and Tumor Repository on Chronic Arseniasis. *Medical Geology Newsletter*. 2002;(5):9-12. International Working Group on Medical Geology Web site at <http://home.swipnet.se/medicalgeology/>.

GOALS

1. Provide AFIP and DoD with state-of-the-art analytical support on toxic trace element analysis, toxic metal speciation studies, and spectroscopic testing of biological, chemical, and environmental specimens.
2. Fully develop the Depleted Uranium (DU) Specimen Repository at the AFIP in collaboration with the Baltimore VA Depleted Uranium Follow-up Program; provide analytical support to DoD on cases associated with DU exposure.
3. Work on the Navy Lung Disease Assessment Program by providing morphometric (quantitative) elemental analyses on cases with a diagnosis of pulmonary sarcoidosis by employing SEM-EDXA.
4. Develop and offer educational and training courses on environmental and toxicologic pathology, environmental health, and medical geology.
5. Develop a core analytical laboratory for the evaluation of military-relevant applications of complementary alternative medicine (MIL-CAM) in collaboration with USUHS and the Samueli Institute for Information Biology.
6. Develop our program on the application of confocal Raman microprobe, chemical imaging and infrared microspectroscopy as noninvasive, quick and accurate methods for the identification and characterization of medically relevant microorganisms.
7. Strengthen and enhance our laboratory capabilities on biophysical toxicology, environmental toxicology, and chemical pathology services.
8. Establish, coordinate, and enhance interagency collaborations on environmental health, biomedical research and toxicologic pathology.



Frank B. Johnson, MD
Chief
Date of Appointment – 26 February 1990



DIVISION OF CHEMICAL PATHOLOGY

MISSION

The Division of Chemical Pathology provides consultation, education, and research in the diagnosis and interpretation of disease through the application of physical and chemical procedures to tissues and tissue products. The division conducts research and provides education in related subjects, particularly environmental toxicology.

STAFF

Medical:

Frank B. Johnson, MD

Scientific:

Hazel Marie Jenkins, HT, ASCP, Histochemical Technologist

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	700
Army (510)	
Navy (2)	
Air Force (188)	
Federal	55
VA (54)	
OFA (1)	
Civilian	2
Interdepartmental	12
Total	769

These 769 cases required the following types of procedures and analyses:

- Special staining: 10 slides
- FT-IR calculi cases (military): 696
- FT-IR calculi cases (VA): 52
- FT-IR non-calculi cases: 12
- SEM-EDXA: 64
- Wet chemistries: 1,224
- Calculi file slides: 751
- Radio frequency-excited plasma reaction: 15

In addition, the division conducted scanning electron microscopy studies on cases from other divisions within the department, the Division of Hepatic Pathology, the Division of Ophthalmic Pathology, the Department of Cardiovascular Pathology, the Department of Orthopedic Pathology, and Telepathology.

Impact:

1. The division conducts analyses on more calculi than any other laboratory in the military.
2. Scanning electron microscopy with energy dispersive x-ray analyses of materials mixed with anthrax spores continues to generate interest from the news media.
3. Dr. Johnson facilitated the expeditious review of human-use research protocols involving the health of active-duty military personnel and their families.
4. Dr. Johnson reviewed inventories of laboratory chemicals.

Quality Assurance: The laboratory was found to have no deficiencies in the interim CAP inspection held in October 2002.

EDUCATION

Presentations and Seminars: Dr. Johnson provided informal educational experience to members of the staff by discussing cases brought directly to him in consultation.

RESEARCH

Publications: Dr. Johnson participated as a coauthor of 1 research abstract and had 1 journal article in 2002. He also participated as author of “Identification of Foreign Substances in Tissues,” a serial publication of the C. L. Davis Foundation for the Advancement of Veterinary Pathology.

Projects:

1. Development and refinement of methods for identification and characterization of foreign materials in tissues.

2. Studies on the purity of reagents used in histology laboratories.

OTHER ACCOMPLISHMENTS

Continuing Education: The following workshops, courses, and conferences were attended by our division for continuing education:

1. AFIP Weekly Professional Staff Conferences
2. Hitachi SEM Training, AFIP

Public Affairs Reports: Preston R. *Demon in the Freezer*. New York, NY: Random House; 2002.

PRESENTATION

March 2002: New Orleans, La, 53rd Pittsburgh Conference, "Identification of pathology specimens using infrared and Raman microspectroscopy, scanning electron microscopy, and x-ray diffraction," SC Cordero.

PUBLICATIONS

Journal Articles

Kalasinsky VF, Jenkins HM, Johnson FB. Applications of vibrational microspectroscopy to pathology specimens. *Vib Spectrosc*. 2002;28:199-207.

Abstracts

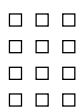
Kalasinsky VF, Moeller BC, Cordero SC, Jenkins HM, Johnson FB. Identification of pathology specimens using infrared and Raman microspectroscopy, scanning electron microscopy, and x-ray diffraction. Abstracts of the 53rd Pittsburgh Conference. March 18-22, 2002, New Orleans, La.

Other Publications

Detecting environmental terrorism: AFIP's Department of Environmental and Toxicologic Pathology provides critical DoD, homeland defense programs. *The AFIP Letter*. August/October 2002;160.



Michael R. Lewin-Smith, MD
Chief
Date of Appointment – 1 November 2001



DIVISION OF ENVIRONMENTAL PATHOLOGY

MISSION

The Division of Environmental Pathology conducts consultation, education, and research in environmental toxicology, and in environmental, drug-induced, and radiation pathology. It studies ways to develop, implement, and apply toxicological techniques for analyzing human and animal tissue and determining causes of injury. It maintains registries for Kuwait/Persian Gulf War veterans, Agent Orange/Vietnam War veterans, former prisoners of war and ionizing radiation veterans. The division provides pathology support for the other divisions within the department and for the INTOX data center. The information gathered may prove pertinent in the area of military post-deployment health surveillance, and be of value in improving force protection for future deployments.

STAFF

Medical:

Michael R. Lewin-Smith, MD, Chief
(Deceased) David B. Busch, MD, PhD, Chief, Mutagen Branch
Charles S. Specht, MD, Staff Pathologist
(D) Elena R. Ladich, MD, Staff Pathologist, ARP

Scientific:

(A,D) Helen Manos, MS, Laboratory Technician (ARP), Mutagen Branch

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	14
Army (10)	
Navy (3)	
Air Force (1)	
Federal	3,103
VA (3,101)	
OFA (2)	
Civilian	10
Interdepartmental.....	27
Total	3,154

The above cases required the following types of procedures and analyses:

- H&E stain: 196
- Special stains: 156
- Immunohistochemical stains: 92
- Wet tissue: 3
- Electron microscopy: 1
- Molecular biology studies: 2 (5 tests)

Impact:

1. The division maintains the Registry for Former Prisoners of War (POWs), which contains histopathologic specimens dating back to 1945. The registry was established in 1980 in a VA circular. Since then, 25,340 specimens from 12,356 former POWs have been received at the AFIP. During 2002 1,711 new POW registry accessions were received and 1,655 accessions were final reported. As a result of the October 1, 2002 memorandum of understanding (MOA) between the AFIP and the VA, 560 cases were finalized without an AFIP report being issued. The division received 82 fewer POW accessions in 2002 than in 2001. As cohort studies from the registry are conducted, the status of the patients and the geographic locations of their imprisonment are being verified through records available from the DoD and the National Archives. There were 2 active research protocols based on registry material in 2002.
2. The division maintains the Kuwait/Persian Gulf Registry for pathology specimens from Persian Gulf War veterans. This registry is supported by funding from the DoD, and contains pathologic material contributed by Military Medical Treatment Facilities and VA Medical Centers. During 2002, 1,832 new Kuwait/Persian Gulf Registry accessions were received and 1,688 accessions were final reported. As a result of the October 1, 2002 MOA between the AFIP and the VA, 503 accessioned cases were finalized without an AFIP report being issued. The division received 125 fewer Kuwait/Persian Gulf accessions in 2002 than in 2001. The AFIP Kuwait/Persian Gulf Registry contained 9,354 accessioned cases from 6,857 verified Gulf War military veterans on December 31, 2002. In addition there were 1,402 accessioned cases from 1,006 veterans who were in the theater of operations, but not during the period August 1, 1990 to July 31, 1991, and 3,716 accessioned cases from 3,168 patients whose status could not be verified, but had been received as Kuwait/Persian Gulf Registry cases. These latter 2 groups have not, to date, been included in our research studies or publications. Data derived from the Kuwait/Persian Gulf Registry were presented at the US/Canadian Academy of Pathology 91st Annual Meeting and at the Annual Meeting of the American Society for Clinical Pathology/College of American Pathologists. The division completed 2 research projects relating to the AFIP Kuwait/Persian Gulf Registry in 2002. The results of a study of head and neck pathology specimens were published in *Military Medicine*. The results of a study of liver pathology specimens with clinicopathologic correlation were published as an abstract in the *American Journal of Clinical Pathology*. The latter work was also pre-

sented in poster form at the American Society for Clinical Pathology/College of American Pathologists 2002 Annual Meeting.

3. A special study conducted in the 1980s for Vietnam War veterans formed the basis for the AFIP Registry for Agent Orange, which is maintained by the division. Additional cases from Vietnam War military veterans have been received for inclusion in the Agent Orange Registry since then. In addition, autopsy contributions, received mainly from VA Medical Centers, are received as part of a research protocol for dioxin evaluation and are also included in the registry. The toxicologic evaluation of these latter cases is performed by the division. During 2002, 741 new Agent Orange Registry accessions were received and 698 accessions were final reported. As a result of the October 1, 2002 MOA between the AFIP and VA, 312 cases were finalized without an AFIP report being issued. The division received 690 more Agent Orange accessions in 2002 than in 2001. Four cases included toxicologic analysis for the dioxin impurity in Agent Orange. There were 7,621 accessioned cases from 6,591 patients in the Agent Orange database on December 31, 2002.

In addition, the VA requests consultations on claims cases, predominantly with respect to possible associations of pathologic findings with reported prior exposure to Agent Orange. Division personnel reply to these consults in coordination with the department chair and the relevant subspecialty consultants of the AFIP. Three new VA claims cases were received and 2 were completed by the division in 2002. The remaining case was received late in the year.

For the 3 registries listed above, the division received a combined total of 4,284 new accessions in 2002, representing an increase of 483 accessions over 2001.

4. The Radiation Biology Registry, formerly under the Mutagen Branch, was retained by the division following the untimely death of Dr. Busch. In 2002, 13 new cases were added to the registry.
5. The department has developed the international INTOX database, which contains several thousand cases and was reorganized in 2001. The INTOX database was renamed as the INTOX Data Center and is now an umbrella for several databases, which have been separated to more easily identify related cases. Division staff have been actively involved with the development of the new data center, and in redesigning the computerized records for the Tissue Reaction to Drugs (TRD) Registry. The registries for Agent Orange, Former Prisoners of War, Kuwait/Persian Gulf, and Radiation Pathology are databases in the INTOX Data Center. Division staff have also worked on the material for the Breast Explant Registry and Chronic Arseniasis Registries. A new database for environmental agents has been created for agents previously included in the TRD Registry but which are not recognized as conventional drugs, diagnostic or therapeutic agents, or alternative therapies. The reorganization may take several years to complete, but will improve the utility of the data for future research and prove useful for collaborative work, particularly with military and other government agencies.

Quality Assurance: Division staff (MR Lewin-Smith, CS Specht) reviewed 303 autopsies, surgical pathology, and cytology cases in 2002 as part of the AFIP's quality assurance program.

EDUCATION

Presentations and Seminars: Members of the division made 5 presentation in 2002. Complete data are listed at the end of this report.

Courses: MR Lewin-Smith successfully completed the Department of the Army Leadership Education and Development (LEAD) Course at WRAMC.

Trainees: During 2002, the division provided training to 1 Nelson S. Irey Environmental Pathology Fellow for 6 months/127 days.

RESEARCH

Publications: Division staff published 1 journal article and 3 abstracts in 2002. Complete references are listed at the end of this report.

Projects: The division maintained 11 AFIP approved research projects in 2002. Two new projects were approved and 3 were finalized in 2002.

Principal Investigator: MR Lewin-Smith

1. A histopathologic study of hematologic specimens from Persian Gulf War veterans.
2. The timing of hepatitis C seroconversion in a cohort of US military Gulf War veterans

(GWVs).

3. A histopathologic study of liver specimens from Persian Gulf War veterans.
4. Pathology of the lung in a cohort of former prisoners of war.
5. The anatomic pathology of former prisoners of war.

Principal Investigator: CS Specht

1. A review of gynecologic histopathology in a group of Gulf War veterans.
2. Histopathologic study of inflammatory and neoplastic skin lesions in Gulf War veterans.
3. Histopathologic study of inflammatory and neoplastic colon lesions in Gulf War veterans.
4. A histopathologic review of head and neck specimens from a cohort of Persian Gulf War veterans.
5. A follow-up study of 100 liver specimens from a cohort of Persian Gulf War veterans.
6. A follow-up study of colonic specimens without overt histopathologic abnormalities from a cohort of Persian Gulf War veterans.

Research Funds Received: The AFIP Kuwait/Persian Gulf Registry is supported by Persian Gulf Initiative (PGI) funding from the DoD.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal

KC Holtzmuller, COL, USA, WRAMC, hepatic disease in US Gulf War veterans (GWVs).

Civilian:

C Watkins, S Stofko, Prisoner of War Information System (POWIS), pathology of the lung in former prisoners of war.

Interdepartmental:

1. L Rabin, MD, hepatic disease in US Gulf War veterans (GWVs).
2. A Kende, Maj, USAF, follow-up study of Gulf War veterans with colonic specimens without overt histopathologic changes.
3. SL Abbondanzo, MD, a histopathologic study of hematolymphoid specimens from Persian Gulf War veterans.

Faculty Appointments:

1. George Washington University, Assistant Clinical Professor of Pathology, Department of Pathology, MR Lewin-Smith.
2. Georgetown University, Adjunct Assistant Professor, Department of Pathology,, MR Lewin-Smith.

New Missions and/or Missions Dropped:

1. Division staff initiated 2 new research projects from the AFIP Kuwait/Persian Gulf Registry in 2002, addressing hematolymphoid pathology specimens and gynecologic pathology specimens.
2. The laboratory work of the Mutagen and Radiation Pathology Branch was transferred to the Division of Biochemical Pathology following the death of Dr. Busch. The Radiation Biology Pathology Registry remains under the Division of Environmental Pathology.
3. As a result of a new memorandum of understanding with the VA, as of October 1, 2002, cases submitted to the AFIP only for the purpose of inclusion in the AFIP's research registries are not reviewed and reported by the AFIP. The cases are entered into the registries using the contributor's diagnostic information.
4. Closer collaboration with the Division of Environmental Toxicology and support of the Division of Chemical Pathology resulted in 21 combined consultation reports in 2002.

Official Trips (funding agency in parentheses):

1. February 2002, US/Canadian Academy of Pathology 91st Annual Meeting, Chicago, Ill, MR Lewin-Smith (AFIP).
2. October 2002, American Society for Clinical Pathology/College of American Pathologists Annual Meeting, Washington, DC, CS Specht (AFIP).
3. October 2002, Metropolitan Washington Association of Cytology, Bethesda, Md, MR Lewin-Smith (AFIP).

Continuing Education: Members of the division received CME credit from the following

activities in 2002:

1. Weekly Professional Staff Conferences and invited lectures at the AFIP.
2. US/Canadian Academy of Pathology Annual Meeting.
3. Oakstone Medical Publishing/Johns Hopkins University School of Medicine.
4. American College of Gastroenterology.
5. American Society for Clinical Pathology.

PRESENTATIONS

1. February 2002: Chicago, Ill, 91st Annual Meeting of the US/Canadian Academy of Pathology, "A histopathologic study of liver specimens from Persian Gulf War military veterans," MR Lewin-Smith.
2. June 2002: Washington, DC, AFIP Weekly Professional Staff Conference, "The AFIP Kuwait/Persian Gulf Registry: 2002 update," MR Lewin-Smith.
3. October 2002: Washington, DC, 2002 Meeting of the American Society for Clinical Pathology/College of American Pathologists, "A study of liver specimens from Gulf War veterans, with clinicopathologic follow-up," CS Specht.
4. October 2002: Washington, DC, 2002 Meeting of the American Society for Clinical Pathology/College of American Pathologists, "Dioxin analysis in postmortem material from US military Vietnam War veterans," VF Kalasinsky.
5. October 2002: Bethesda, Md, Metropolitan Washington Association of Cytology, "The identification of foreign materials in human pathology specimens," MR Lewin-Smith.

PUBLICATIONS

Journal Articles

Ladich ER, Lewin-Smith MR, Specht CS, Moroz AL, Kalasinsky VF, Mullick FG. A histopathological study of head and neck specimens from a cohort of Persian Gulf War military veterans. *Mil Med.* 2002;167: 864-867.

Abstracts

1. Lewin-Smith MR, Ladich ER, Specht CS, Kalasinsky VF, Rabin L, Holtzmuller KC, Moroz AL, Mullick FG. A histopathologic study of liver specimens from Persian Gulf War military veterans. *Mod Pathol.* 2002;15:A 289.
2. Specht CS, Lewin-Smith MR, Ladich ER, Kalasinsky VF, Moroz AL, Mullick FG, Rabin L. A study of liver specimens from Gulf War veterans, with clinicopathologic follow-up. *Am J Clin Pathol.* 2002;118:654-655.
3. Kalasinsky VF, Wong-Verelle DM, Cordero SC, Lewin-Smith MR, Ladich ER, Specht CS, Mullick FG. Dioxin analysis in postmortem material from US military Vietnam War veterans. *Am J Clin Pathol.* 2002;118:641.

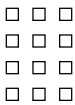
GOALS

1. Work closely with US military and other federal agencies to investigate pathologic findings associated with foreign materials, environmental exposures, and toxic reactions to drugs.
2. Investigate interesting cases of foreign materials in pathology specimens employing the techniques available in the other divisions of the department and with intramural and extramural collaborators. Follow up and publish results of important findings in peer-reviewed journals in a timely manner.
3. Train fellows interested in the field of environmental and toxicologic pathology.
4. Present educational materials for pathologists, other medical professionals and other interested parties.
5. Complete the backlog of SNOMED coding for Kuwait/Persian Gulf Registry cases, to ensure the accurate and timely entry of all data into this registry.
6. Complete and publish the results of the Kuwait/Persian Gulf Registry research projects on dermatological, gastrointestinal, hepatic, hematolymphoid, and gynecologic pathology.
7. Investigate the neuropathology and gynecological cytopathology of Persian Gulf War veterans.
8. Improve and restructure the Agent Orange Registry to include the verification of periods of veterans' deployment(s).
9. Complete and publish the results of the Agent Orange Registry dioxin estimation autopsy study in collaboration with the Division of Environmental Toxicology.

- 10. Improve and restructure the Former POW Registry to include verification of places and durations of imprisonment.
- 11. Work on the INTOX Data Center to improve its future utility for investigators and extra-mural collaborations.



Victor F. Kalasinsky, PhD
Chief
Date of Appointment – 25 September 1989



DIVISION OF ENVIRONMENTAL TOXICOLOGY

MISSION

The Division of Environmental Toxicology conducts consultation, education, and research in environmental toxicology, and develops techniques for analyzing human and animal tissue and determining causes of injury.

STAFF

- Scientific:**
- Victor F. Kalasinsky, PhD, Chief
 - Steven C. Cordero, MS, Laboratory Manager
 - (D) Tricia J. Kwiatkowski, MS, Laboratory Technician
 - (A,D) Rita C. Williams, BS, Laboratory Technician
 - (A,D) Kristi J. Oberbroeckling, BS, Laboratory Technician
 - (A,D) Benjamin C. Moeller, Laboratory Technician
 - (A) Thuy T. Luong, BS, Laboratory Technician
 - (A) Jessica R. Charak, BS, Laboratory Technician
 - (A) Kathryne C. E. Meakim, MS, Laboratory Technician
 - Albin L. Moroz, MS, Computer Program Analyst
 - Jesse Tristan, BS, Computer Applications Specialist

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	70
Army (69)	
Navy (1)	
Federal	2
VA (2)	
Civilian	5
Interdepartmental.....	23
Total	100

The division had tissue sections cut for 26 special reflective slides and 17 carbon disks. By using gas chromatography, mass spectrometry, liquid chromatography, Fourier transform infrared and Raman spectrometry, and scanning electron microscopy with energy dispersive x-ray analysis, it was possible to identify or characterize unknown chemical substances in 27 cases. These included pesticides, plastics, therapeutic drugs, and 4 cases of dioxin analysis in patients thought to have been exposed to Agent Orange in Vietnam. Other cases included serologic tests on Gulf War veterans.

- Impact:**
- 1. Preliminary data suggested that it would be possible to discriminate among different genera of microorganisms, so various spectroscopic methods of detecting biological agents, including microspectroscopy, chemical imaging, and photoacoustic spectroscopy, are

- being investigated and evaluated in collaboration with the Division of Microbiology.
2. A number of white powders suspected of being biological agents were identified using infrared and Raman spectroscopy and scanning electron microscopy with energy dispersive x-ray analysis.
 3. Specimens contributed by the military criminal investigation services were analyzed for signs of chemical adulteration.
 4. Cases involving unknown toxic environmental exposures were processed for the Southern Command.
 5. Cases involving suspected exposure to mustard agent were processed and found to be negative.
 6. In collaboration with CHPPM and USUHS, laboratory measurements were made for urine specimens collected from deployed troops.
 7. Work continued on improving detection limits for insect repellents sampled from transdermal sweat patches
 8. The AFIP-DoD-GEIS Directory of Public Health Laboratory Services was available on-line as a prototype on October 1. Participating laboratories were asked to evaluate the directory and to modify and update their own data.

Quality Assurance:

1. The division annually participates in 2 CAP proficiency tests and 2 NIST intercomparison exercises.
2. The division conducted 4 quality assurance analyses of xylene and ethyl alcohol in support of the solvent recycling program at AFIP.
3. The division successfully completed the interim CAP inspection in October 2002.
4. Division staff (VF Kalasinsky, SC Cordero) served on the CAP team that inspected the Washington Hospital Center on April 17, 2002.
5. Division staff (VF Kalasinsky) conducted QA review of 74 cases involving urinary calculi.
6. The department successfully passed the Environmental Compliance Assessment System (ECAS) inspection.

EDUCATION

Presentations and Seminars: Division staff made 10 presentations for 150 man-hours at meetings and conferences in 2002. Dates and titles are listed at the end of this report.

Trainees: Two SEAP high school summer students spent 8 weeks (40 days each) in the environmental toxicology laboratory learning analytical methods of toxicology. One additional high school student spent part of a day (5 hours) observing laboratory procedures as part of Shadow Day.

RESEARCH

Publications: Division staff published 2 journal articles and 5 abstracts. A complete list of references appears at the end of this report.

Projects: Division staff conducted research described in 12 approved protocols.

1. Military Working Dogs Deployed to Southwest Asia as Sentinels for Human Environmental Exposure during the Persian Gulf War.
2. Prospective Clinical and Laboratory Evaluation of Patients with Silicone Breast Implants: Determination of Silicon Baseline Levels and Molecular Microanalysis of Pathological Specimens Associated with Fibrous Capsules.
3. Histopathologic Study of Inflammatory and Neoplastic Skin Lesions in Gulf War Veterans.
4. Histopathologic Study of Inflammatory and Neoplastic Colon Lesions in Gulf War Veterans.
5. Infrared Spectroscopic Mapping of Atherosclerotic Plaques Associated with Sudden Cardiac Death.
6. A Follow-up Study of Colonic Specimens Without Overt Histopathologic Abnormalities from a Cohort of Persian Gulf War Military Veterans.
7. A Histopathologic Review of Head and Neck Specimens from a Cohort of Persian Gulf War Veterans.
8. The Anatomic Pathology of Former Prisoners of War.
9. Pathology of the Lung in a Cohort of Former Prisoners of War.

10. The Timing of Hepatitis C Seroconversion in a Cohort of Gulf War Military Veterans.
11. A Histopathologic Study of Liver Specimens from Persian Gulf War Military Veterans.
12. Histopathologic Review and Chemical Analysis of Autopsy Material from the Agent Orange Registry.

In Gulf War-related studies, the division is participating in the DoD's Comprehensive Clinical Evaluation Program (CCEP). AFIP is charged with the long-term storage of blood and serum specimens collected from Gulf War veterans and their families who are reporting symptoms that might be related to service in the Gulf region. A database for diagnosis of surgical biopsies is also being maintained for Gulf War veterans reporting to VA or military hospitals.

Research Funds Received:

1. DoD Global Emerging Infections System – MOA to establish, maintain, and manage a Web-based Directory of Public Health Laboratory Services.
2. US Army Soldier Biological and Chemical Command – MOA to characterize microorganisms spectroscopically

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. IW Levin, National Institutes of Health, Bethesda, Md, Vibrational Imaging of Tissue Samples.
2. KC Holtzmuller, COL, USA, WRAMC, Washington, DC, Hepatic Disease in US Military Gulf War Veterans.
3. PW Kelley, JC Gaydos, Global Emerging Infections System, Silver Spring, Md, Directory of Public Health Laboratory Services.
4. AC Samuels, US Army Soldier Biological and Chemical Command, Aberdeen, Md, Infrared and Raman Spectroscopic Characterization of Microorganisms.
5. JM Heller, US Army Center for Health Promotion and Preventive Medicine, Aberdeen, Md, Deployment Surveillance of Active Duty US Troops.
6. JD Eversole, Naval Research Laboratory, Rapid Aerosol Agent Detection.

Interdepartmental:

TL Hadfield, Division of Microbiology, Infrared and Raman Spectroscopic Characterization of Microorganisms.

Committees:

Editorial Boards:

Associate Editor, *Vibrational Spectroscopy*, VF Kalasinsky.

Manuscripts Reviewed:

VF Kalasinsky:

1. *Analytical Chemistry* (1)
2. *Applied Spectroscopy* (2)
3. *Journal of Physical Chemistry* (2)
4. *Vibrational Spectroscopy* (4)

Offices/Committee Memberships in National or International Societies:

VF Kalasinsky:

1. Member, Small Business Innovation Research (SBIR) proposal review panels at Edgewood Chemical Biological Center
2. Government referee team member for DARPA, Spectral Sensing of BioAerosols (SSBA) Program
3. Review panel member, Joint Services Agent Water Monitor (JSAWM) Program
4. Member, Rapid Aerosol Agent Detection (RAAD) Program
5. Member, Organizing Committee, International Symposium on Spectral Sensing Research (ISSSR) 2003

Faculty Appointments:

Hamline University, Adjunct Professor, VF Kalasinsky, SC Cordero.

Scientific Appointments:

Guest Researcher, NIH, National Institute of Diabetes, Digestive, and Kidney Diseases (NIDDK), VF Kalasinsky.

New Missions:

1. The Directory of Public Health Laboratory Services outlined in the memorandum of understanding with the DoD Global Emerging Infections System (DoD-GEIS) was launched as a prototype and will be maintained and updated by AFIP.
2. As a continuation of the characterization of microorganisms by using infrared and Raman spectroscopy, a collaboration with SBCCOM, DARPA, a private industry, and the Division of Microbiology at AFIP involves the identification of different microorganisms in an aerosol and the evaluation of new technologies for their detection in the field.

Official Trips (funding agency in parentheses):

1. March 2002, 53rd Pittsburgh Conference on Analytical Chemistry and Spectroscopy, New Orleans, La, SC Cordero (ARP).
2. March 2002, International Conference on Emerging Infectious Diseases, Atlanta, Ga, VF Kalasinsky (GEIS).
3. September 2002, Rapid Aerosol Agent Detection Meeting, MIT Lincoln Laboratory, Lexington, Mass, VF Kalasinsky (SBCCOM).
4. October 2002, Joint Meeting of the ASCP and CAP, Washington, DC, VF Kalasinsky.
5. November 2002, Nicolet Research Seminar, Teaneck, NJ, VF Kalasinsky (Nicolet Corporation).

Continuing Education: The following workshops, courses, and conferences were attended by our division for continuing education:

1. USMI, Food, Air, Water and Terrorism: Assessing the Risk, Washington, DC.
2. The Emerging Threat of Biological Weapons and Bioterrorism, Bethesda, Md.
3. Pittsburgh Conference on Analytical Chemistry and Spectroscopy, New Orleans, La.
4. International Conference on Emerging Infectious Diseases, Atlanta, Ga.
5. Biological and Chemical Agent Detection in the Field, Arlington, Va.
6. Applications of High Performance Liquid Chromatography and Mass Spectrometry, Greenbelt, Md.
7. Introduction to the Principles of Radiation Protection, Washington, DC.
8. Vibrational Spectroscopy of Microorganisms, Aberdeen Proving Ground, Md.
9. Joint Meeting of the ASCP and CAP, Washington, DC.
10. Research Symposium: FT-IR and Raman Microspectroscopy, Teaneck, NJ.
11. USMI, Computers, Robots and Cyberspace: Maximizing the Cutting Edge, Washington, DC.
12. AFIP Weekly Professional Staff Conferences and invited lectures, Washington, DC.

Public Affairs Reports: Preston R. *Demon in the Freezer*. New York, NY: Random House; 2002.

PRESENTATIONS

1. February 2002: Chicago, Ill, US/Canadian Academy of Pathology Annual Meeting, "A histopathologic study of liver specimens from Persian Gulf War military veterans," MR Lewin-Smith.
2. March 2002: New Orleans, La, 53rd Pittsburgh Conference, "Identification of pathology specimens using infrared and Raman microspectroscopy, scanning electron microscopy, and x-ray diffraction," SC Cordero.
3. March 2002: New Orleans, La, 53rd Pittsburgh Conference, "Analysis of fluoride in post-mortem tissues using an ion-selective electrode," SC Cordero.
4. June 2002: Washington, DC, AFIP Weekly Professional Staff Conference, "Environmental toxicology case studies," VF Kalasinsky.
5. August 2002: San Diego, Calif, Laboratory Joint Working Group, "AFIP and DoD-GEIS Directory of Public Health Laboratory Services," DR Brown.
6. September 2002: Lexington, Mass, Rapid Aerosol Agent Detection Meeting, "Evaluating biothreat detection: application of chemical imaging to biological agent identification," VF Kalasinsky.
7. October 2002: Washington, DC, Joint Meeting of the American Society of Clinical Pa-

- thologists and the College of American Pathologists, "Dioxin analysis in postmortem material from US military Vietnam War veterans," VF Kalasinsky.
8. October 2002: Washington, DC, Joint Meeting of the American Society of Clinical Pathologists and the College of American Pathologists, "A study of liver specimens from Gulf War veterans with clinicopathologic follow-up," CS Specht.
 9. November 2002: Washington, DC, Joint Service Scientific Conference on Chemical and Biological Defense Research, "Infrared spectra of *Bacillus subtilis* spores: the effect of growth media," AC Samuels.
 10. November 2002: Teaneck, NJ, Nicolet Research Symposium, "Infrared and Raman microscopy of foreign materials in tissue," VF Kalasinsky.

PUBLICATIONS

Journal Articles

1. Kalasinsky VF, Jenkins HM, Johnson FB. Applications of vibrational microspectroscopy to pathology specimens. *Vib Spectrosc.* 2002;28:199-207.
2. Ladich ER, Lewin-Smith MR, Specht CS, Moroz AL, Kalasinsky VF, Mullick FG. A histopathological study of head and neck specimens from a cohort of Persian Gulf War military veterans. *Mil Med.* 2002;167:864-867.

Abstracts

1. Lewin-Smith MR, Ladich ER, Specht CS, Kalasinsky VF, Rabin L, Holtzmuller KC, Moroz AL, Mullick FG. A histopathologic study of liver specimens from Persian Gulf War military veterans. *Mod Pathol.* 2002;15:A289.
2. Kalasinsky VF, Moeller BC, Cordero SC, Jenkins HM, Johnson FB. Identification of pathology specimens using infrared and Raman microspectroscopy, scanning electron microscopy, and x-ray diffraction. Abstracts of the 53rd Pittsburgh Conference. March 18-22, 2002, New Orleans, La.
3. Cordero SC, Kalasinsky VF, Goodhue WW, Splichal EM. Analysis of fluoride in post-mortem tissues using an ion-selective electrode. Abstracts of the 53rd Pittsburgh Conference. March 18-22, 2002, New Orleans, La.
4. Kalasinsky VF, Wong-Verelle DM, Cordero SC, Lewin-Smith MR, Ladich ER, Specht CS, Mullick FG. Dioxin analysis in postmortem material from US military Vietnam War veterans. *Am J Clin Pathol.* 2002;118:641.
5. Specht CS, Lewin-Smith MR, Ladich ER, Kalasinsky VF, Moroz AL, Mullick FG, Rabin L. A study of liver specimens from Gulf War veterans with clinicopathologic follow-up. *Am J Clin Pathol.* 2002;118:654-655.

Other Publications

Detecting environmental terrorism: AFIP's Department of Environmental and Toxicologic Pathology provides critical DoD, homeland defense programs. *The AFIP Letter.* August/October 2002:160.

GOALS

1. Work within DoD to enhance homeland security by developing and evaluating possible field portable instrumentation for the detection of chemical and biological agents.
2. Analyze and identify powders and other materials suspected of being biological agents.
3. Collect specimens from Gulf War veterans (GWVs) and summarize the available medical diagnoses.
4. Fully implement the AFIP DoD-GEIS Directory of Public Health Laboratory Services so that it may be useful to deployed medical officers who have Internet access.
5. Work with the Deployment Surveillance group at CHPPM to provide testing of specimens collected from deployed troops.
6. Improve turnaround time on cases involving extensive laboratory work and enhance the capabilities for responding to cases whose required tests are not available elsewhere within DoD.



Douglas J. Wear, MD
Chair
Date of Appointment — 27 June 1988



DEPARTMENT OF INFECTIOUS AND PARASITIC DISEASES PATHOLOGY

MISSION

See individual division reports.

ORGANIZATION

The department is organized into 3 divisions and the Office of the Chair.

1. Division of Infectious and Tropical Diseases Pathology – Peter L. McEvoy, COL, MC, USA, Chief
2. Division of Microbiology – Ted L. Hadfield, Lt Col, USAF, BSC (Ret), Distinguished Scientist, Chief
3. Division of Molecular Pathobiology – Shyh-Ching Lo, MD, PhD, Chief

STAFF – OFFICE OF THE CHAIR

Medical:

Douglas J. Wear, MD, Distinguished Scientist, ARP
(D) Sarah S. Frankel, MD

Administrative:

Darlene Wilson, Secretary to the Chair

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	174
Federal (VA/PHS)	109
Civilian	474
Interdepartmental.....	991
No Final Report Required	12
Total	1,760

EDUCATION

Presentations and Seminars: Department staff gave 47 presentations and 12 poster presentations in 2002. See division reports for dates and titles.

Courses: Department staff participated in 3 non-AFIP courses and supported 1 nondepartmental AFIP courses. See division reports for complete information.

RESEARCH

Publications and Projects: Department staff published 15 journal articles, 11 abstracts, and 4 book chapters, edited the 2001 Annual Report, and produced 3 other publications and worked on 47 research projects. See division reports for details.

OTHER ACCOMPLISHMENTS

Collaborators:

Military:

Division of Retrovirology, WRAIR, Rockville, Md

Civilian:

Aaron Diamond AIDS Research Center, Rockefeller University, New York, NY

Committees (Intramural):

DJ Wear:

- 1. Executive Committee, Substitute for Director, CAP
- 2. CAP Advisory Committee
- 3. Tissue Utilization Committee
- 4. Space and Facility Committee
- 5. Master Planning Committee
- 6. Registrars Forum
- 7. Restructure Guidance Council

Official Trips:

- 1. Site visit to University of West Virginia and Marshall University for possible new AFIP building site, sponsored by Senator Robert Byrd.
- 2. Site visit to Martinsburg, WV for possible new educational facilities, sponsored by Senator Robert Byrd.

Honors: Appointed Director, Advanced Pathology, DJ Wear.

PRESENTATIONS

July 2002: Washington, DC, AFIP Summer High School Students, “To see, you really have to look,” DJ Wear.

PUBLICATIONS

Journal Articles

Brachtel EF, Mascola JR, Wear DJ, Ehrenberg PK, Dayhoff DE, Sanders-Buell E, Michael NL, Frankel SS. Demonstration of de novo HIV type 1 production by detection of multiply spliced and unspliced HIV type 1 RNA in paraffin-embedded tonsils. *AIDS Res Hum Retroviruses*. 2002;18:785-790.

Other Publications

Wear DJ, Casey BL, Card FW, Mills JP, eds. *Armed Forces Institute of Pathology Annual Report 2001*. Washington, DC: Armed Forces Institute of Pathology; 2002.



Peter L. McEvoy, COL, MC, USA
Chief
Date of Appointment — 14 April 1997/2001



DIVISION OF INFECTIOUS AND TROPICAL DISEASES
PATHOLOGY

MISSION

The new Division of Infectious and Tropical Diseases Pathology replaces and expands the previous Division of Geographic Pathology, subsuming it, the Division of AIDS Pathology and Emerging Infectious Diseases, and the Mycobacteriology Branch of the Division of Microbiol-

ogy. This new division provides medical expertise in diagnostic consultation, education, and research on human tissues and body fluids for military, VA, and civilian hospitals in the United States, and for missionary hospitals in Africa. Materials of epidemic, emerging, reemerging, and unusual diseases, including HIV, emerging infections, Buruli ulcer, and leprosy are studied, cataloged, and compiled in our teaching materials, which enhance awareness and understanding among the medical community of the pathology and pathogenesis of infectious diseases. They also facilitate our special research interests in endemic tropical diseases.

STAFF

Medical:

Peter L. McEvoy, COL, MC, USA, Chief
 Mary K. Klassen-Fischer, Maj, USAF, MC, Chief, Fungal Diseases Branch
 Ronald C. Neafie, MS, Chief, Parasitology Branch
 Ann M. Nelson, MD, Chief, AIDS Pathology and Emerging Infectious Diseases Branch
 Wayne M. Meyers, MD, PhD, Chief, Mycobacteriology Branch

Fellow:

Melanie Maleombho-Usher, MD, Red Cross Volunteer

Administrative:

Cynthia G. Wilson, Secretary, ARP

DIAGNOSTIC CONSULTATION—Geographic Branch

Cases	Completed
Military	142
Army (41)	
Navy (48)	
Air Force (53)	
Federal	44
VA (41)	
AFIP (1)	
OFA (2)	
Civilian	319
Interdepartmental	956
No Final Report Required	12
Total	1,473

The division made no change in the contributor diagnosis in 347 cases, a minor change in diagnosis in 112 cases, and a major change in diagnosis in 4 cases. We received 10 cases with no contributor diagnosis; 37 cases were recorded without coding.

DIAGNOSTIC CONSULTATION—AIDS Pathology and Emerging Infectious Diseases Branch

Cases	Completed
Military	9
FMIL (3)	
Army (1)	
Navy (4)	
Air Force (1)	
Federal	59
VA (59)	
Civilian	74
Interdepartmental	34
Total	176

The branch made no change in the contributor diagnosis in 120 cases, a minor change of diagnosis in 18 cases, and a major change of diagnosis in 2 cases. We received 3 cases with no contributor diagnosis.

DIAGNOSTIC CONSULTATION—Mycobacteriology Branch

<i>Cases</i>	<i>Completed</i>
Military	19
Army (12)	
Navy (7)	
Federal	6
AFIP (1)	
OFA (5)	
Civilian	81
Interdepartmental.....	1
Total	107

For the 3 divisions of Infectious and Tropical Diseases Pathology, Molecular Pathobiology, and Microbiology, there were 1,348 cases for consultation, education, or research, which required the following types of procedures and analyses:

- H&E stains: 1,651 slides
- Special stains: 5,956 slides
- Immunohistochemical staining: 68 slides
- Total blocks cut: 1,331
- Contributor slides studied: 5,888

Deployments: Weekly. WRAMC Department of Anatomic Pathology Case Signouts. PL McEvoy.

Impact:

The AIDS Branch has developed the world’s largest repository (>6,000 cases) of the pathology of HIV infection and AIDS. The collection dates back to the 1970s and includes material from original cases reported to the CDC, and autopsy, surgical, and cytology material from the US, Africa, Central and South America, Europe, and Asia. Material from the repository has been used for 2 books and courses on the pathology of emerging infections and for contributions to the AIDS and National Cancer Specimen Bank.

In 1999, the material was organized by patient demographics, tissue site, and diagnosis. This database is the basis for:

- A multidisciplinary course on diagnosis of indicator conditions of HIV infection and AIDS (2002).
- Chapters in the authoritative text on the histopathology of the spectrum of disease in HIV infection and AIDS.
- Electronic education modules on HIV/AIDS pathology.
- Lectures and slide seminars on HIV/AIDS pathology.

Quality Assurance:

1. Improved quality of histopathology laboratory by tracking stain quality and presence of artifacts, especially in Warthin-Starry and Grocott methenamine silver.
2. Maintained database to track reportable infectious diseases in active duty military personnel.
3. Advised on development of joint federal epidemiological tracking of emerging infectious diseases.
4. Produced HQAP Case of the Quarter, PL McEvoy.
5. Chaired Biosafety Committee, MK Klassen-Fischer.
6. Appointed Biosafety Officer, MK Klassen-Fischer.

EDUCATION

Presentations and Seminars: Division staff made 22 presentations for a total of 1,170 man-hours and conducted 3 departmental slide conferences per week. The AIDS Branch participated in the daily slide conference and was responsible for presentations totalling 422.5 man-hours. A complete list of dates and titles appears at the end of this report.

Courses: The division’s professional staff participated in 3 non-AFIP courses (Military Medicine Course, Binford-Dammin Society of Infectious Disease Pathologists, USCAP) and 1 AFIP course.

Educational Aids: The division maintains stained glass slide teaching sets with examples of multiple infectious diseases in tissues, as well as AIDS study sets (50 stained glass slides each) and AIDS study sets (69 2x2 transparencies and case discussion booklets) for visitors and the biannual departmental course.

RESEARCH

Publications: The division published 10 journal articles, 7 abstracts, 2 book chapters, and 3 monographs. Complete references are listed at the end of this report.

Projects: The division maintained 4 research projects in 2002:

1. WHO Collaborating Center
2. Dengue Virus Vaccine – MK Klassen-Fischer
3. AIDS and National Cancer Specimen Bank
4. AIDS Atlas-Education Project

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Naval Medical Research Institute, Bethesda, Md
2. Walter Reed Army Institute of Research, Silver Spring, Md
3. Division of Retrovirology, WRAIR, Rockville, Md
4. Walter Reed Army Medical Center, Washington, DC
5. Helminthological Society of Washington, DC

Civilian:

1. L. Barth Reller, MD, Duke University Medical Center, Durham, NC
2. John F. Madden, MD, Duke University Medical Center, Durham, NC
3. C. Robert Horsburgh, Jr, MD, Boston University School of Public Health, Boston, Mass
4. Jan Orenstein, MD, George Washington University Medical Center, Washington, DC
5. Michael N. Koss, MD, University of Southern California School of Medicine, Los Angeles, Calif
6. Sebastian Lucas, MD, Guy's, King's, and St. Thomas School of Medicine, London, UK
7. Henry M. Jackson Foundation, Rockville, Md

Committees:

Editorial Boards:

1. Editor, *History of Pathology Society Newsletter*, AM Nelson
2. Section Editor, *Annals of Diagnostic Pathology*, AM Nelson
3. Editorial Board, *Pathology, Research and Practice*, AM Nelson

Offices and Committee Memberships in National or International Societies:

RC Neafie:

Executive Committee, Helminthological Society of Washington, DC

MK Klassen-Fischer:

Chair, Scientific Program Committee of the Binford-Dammin Society of Infectious Disease Pathologists

WM Meyers:

1. Presenter, Damien-Dutton Award for 2001, on behalf of the Damien-Dutton Society for Leprosy Aid
2. Member and Chair, BCG Working Group, 5th WHO Advisory Group Meeting on Buruli Ulcer
3. Consultant, proposed exhibit of the National Museum of Health and Medicine, "Lessons in Leprosy: Fear, Loathing and Disease"
4. Facilitator, WHO International Training Workshops on the Surgical Management of Buruli Ulcer
5. Member, Board of Reference, American Leprosy Missions and Infectious Disease Research Institute (Seattle) for Vaccine Development for the Eradication of Leprosy Program
6. Consultant, American Leprosy Board of Directors
7. Board Member, Damien-Dutton Society for Leprosy Aid

8. Honorary Board Member, Johns Hopkins University Tropical Medicine Dinner Club
9. Member, WHO Ad Hoc Advisory Group Meeting on Buruli Ulcer
10. Member, WHO and American Leprosy Mission Advisory Team on Training for Buruli Ulcer

AM Nelson:

1. Member, Education Committee, International Academy of Pathology
2. Member, Stowell-Orbison Award Committee
3. Liaison, Long Course, US/Canadian Academy of Pathology
4. Member, Medical Microbiology Test Committee, American Board of Pathology
5. Secretary, History of Pathology Society
6. Coordinator, Owl School Science Fair, Washington, DC

Continuing Education: Division staff attended training courses in 2002 provided by the following:

1. Greater Washington Infectious Disease Society
2. Tropical Medicine Association of Washington
3. Tropical Medicine Dinner Club of Baltimore, Johns Hopkins
4. Helminthological Society of Washington
5. American Society of Microbiology
6. US/Canadian Academy of Pathology
7. Infectious Disease Society of America
8. International Academy of Pathology
9. Department of Veterans Affairs

Official Trips:

WM Meyers:

1. February 2002, Brussels, Belgium. Catholic University of Louvain. Awards Convocation. Presentation of Damien-Dutton Award for 2001 to Prof. Michel F. Lechat.
2. March 2002, Geneva, Switzerland. 5th WHO Advisory Group Meeting on Buruli Ulcer.
3. April 2002, Baltimore, Md. Tropical Medicine Dinner Club, Johns Hopkins University.
4. April 2002, Washington, DC. WRAIR. Grand Rounds.
5. April 2002, Media, Pa. Greater Media Area Auxiliary of the American Leprosy Missions.
6. May 2002, Greenville, SC. Board of Directors, American Leprosy Missions, Inc.
7. July 2002, Geneva, Switzerland. WHO Meeting on Buruli Ulcer.
8. September 2002, Lisbon, Portugal. 3rd European Congress on Tropical Medicine and International Health.
9. October 2002, Cotonou, Benin. International Training Workshop on the Surgical Management of Buruli Ulcer (sponsored by WHO).
10. November 2002, Bellmore, NY. Board Meeting, Damien-Dutton Society for Leprosy Aid, Inc.

MK Klassen-Fischer:

October 2002, Chicago, Ill. Infectious Disease Society of America Annual Meeting.

AM Nelson:

1. February 2002, Chicago, Ill. US/Canadian Academy of Pathology 91st Annual Meeting.
2. May 2002, Chicago, Ill. Department of Veterans Affairs, HIV 2002.
3. October 2002, Amsterdam, The Netherlands. International Academy of Pathology Annual Meeting.

Honors:

1. Anniversary Award, Helminthological Society of Washington, RC Neafie.
2. E. Clifford Toren Lecture, University of South Alabama, April 2002, AM Nelson.

Collaborators:

Military:

1. Naval Medical Research Institute, Bethesda, Md
2. WRAIR, Silver Spring, Md
3. Division of Retrovirology, WRAIR, Rockville, Md

4. WRAMC, Washington, DC

Civilian:

George Washington University Medical Center

PRESENTATIONS

1. January 2002: New York, NY, New York University Hospital, Glass Slide Seminar, "Vascular proliferations in HIV and AIDS," AM Nelson.
2. January 2002: Washington, DC, Helminthological Society of Washington, "Case presentations," RC Neafie.
3. February 2002: USCAP Annual Meeting, "Cutaneous and lymphatic botryomycosis in persons with HIV infection," RC Neafie.
4. March 2002: Geneva, Switzerland, 5th WHO Advisory Group Meeting on Buruli Ulcer, "Buruli ulcer disease (Mycobacterium ulcerans disease)," WM Meyers.
5. April 2002: Paoli, Pa, Greater Area Auxiliary of the American Leprosy Missions, "Overview of leprosy throughout the world," WM Meyers.
6. April 2002: Birmingham, Ala, University of South Alabama, Department of Pathology, "The pathologist's perspective on the immunology of AIDS," AM Nelson.
7. April 2002: Birmingham, Ala, University of South Alabama, Department of Pathology, Glass Slide Seminar, "Vascular proliferations in HIV and AIDS," AM Nelson.
8. April 2002: Bethesda, Md, AFIP 12th Anatomic Pathology Course, "Infectious disease pathology," MK Klassen-Fischer.
9. June 2002: Washington, DC, George Washington University School of Medical and Health Sciences, "The altered host response in HIV infection and AIDS," AM Nelson.
10. October 2002: Amsterdam, The Netherlands, International Academy of Pathology, "Infectious disease slide seminar," AM Nelson.
11. July 2002: Baltimore, Md, Johns Hopkins School of Hygiene and Public Health Course, "AIDS pathology," AM Nelson.
12. July 2002: Bethesda, Md, USUHS, Military Tropical Medicine Course, Guest Lecturer, RC Neafie.
13. July 2002: Paris, France, World Congress of Dermatopathology, "Buruli ulcer: an emerging disease in Africa," WM Meyers.
14. September 2002: Lisbon, Portugal, 3rd European Congress on Tropical Medicine and International Health, "Prophylactic effect of BCG vaccination in children against osteomyelitis in Mycobacterium ulcerans disease (Buruli ulcer)," WM Meyers.
15. September 2002: Lisbon, Portugal, 3rd European Congress on Tropical Medicine and International Health, "Disseminated Mycobacterium ulcerans disease in an HIV-positive patient: a case study," WM Meyers.
16. September 2002: Lisbon, Portugal, 3rd European Congress on Tropical Medicine and International Health, "Trends in Mycobacterium ulcerans disease (Buruli ulcer) patients as seen in a rural hospital in southern Benin, 1977 through 2000," WM Meyers.
17. September 2002: Lisbon, Portugal, 3rd European Congress on Tropical Medicine and International Health, "Clinical and laboratory diagnosis of M. ulcerans disease," WM Meyers.
18. September 2002: Lisbon, Portugal, 3rd European Congress on Tropical Medicine and International Health, "Spectrum of clinicopathologic features of Mycobacterium ulcerans disease (Buruli ulcer)," WM Meyers.
19. October 2002: Amsterdam, The Netherlands, International Academy of Pathology, "Infectious disease symposium on HIV infection and AIDS," AM Nelson.
20. November 2002: Washington, DC, George Washington University Medical Center, "Identification of fungi in surgical pathology and cytology specimens," MK Klassen-Fischer.
21. December 2002: Los Angeles, Calif, University of Southern California Keck School of Medicine, Department of Pathology, "The pathologist's view of the immunology of AIDS, grand rounds and slide seminar," AM Nelson.
22. December 2002: Los Angeles, Calif, Cedars-Sinai Medical Center, Department of Pathology, "Slide seminar on the pathology of antiretroviral therapy," AM Nelson.

PUBLICATIONS

Journal Articles

1. Wright RW, Neafie RC, McLean M, Markman AW. Zoonotic onchocerciasis of the shoulder. A case report. *J Bone Joint Surg Am.* 2002;84-A:627-629.
2. Portaels F, Aguiar J, Debacker M, Steunou C, Zinsou C, Guedenon A, Meyers WM. "Prophylactic effect of Mycobacterium bovis BCG vaccination against osteomyelitis in children with Mycobacterium ulcerans disease (Buruli ulcer). *Clin Diagn Lab Immunol.* 2002;9:1389-1391.
3. Espey DK, Djomand G, Diomande I, Dosso M, Saki MZ, Kanga JM, Spiegel RA, Marston BJ, Gorelkin L, Meyers WM, Portaels F, Deming MS, Horsburgh CR Jr. A pilot study treatment of Buruli ulcer with rifampin and dapsone. *J Infect Dis.* 2002;6:60-65.
4. Chemlal K, Huys G, Laval F, Vincent V, Savage C, Gutierrez C, Lanele M, Swings J, Meyers W, Daffe M, Portaels F. Characterization of an unusual mycobacterium: a possible missing link between Mycobacterium marinum and Mycobacterium ulcerans. *J Clin Microbiol.* 2002;40:2370-2380.
5. Meyers WM. Obituary: Gerald P. Walsh, PhD, 1935-2001. *Int J Lepr.* 2002;70:47-48.
6. Meyers WM. Presentation of the Damien-Dutton Award to Michel F. Lechat of Belgium. *Int J Lepr.* 2002;70:49-51.
7. Johnson RC, Ifebe D, Hans-Moevi A, Kestens L, Houessou R, Guedenon A, Meyers WM, Portaels F. Disseminated Mycobacterium ulcerans disease in an HIV-infected patient: a case study. *AIDS.* 2002;16:1704-1705.
8. Gormus BJ, Baskin GB, Xu K, Ratterree MS, Mack PA, Bohm RP Jr, Meyers WM, Walsh GP. Anti-leprosy protective vaccination of rhesus monkeys with BCG or BCG plus heat-killed Mycobacterium leprae: lepromin skin test results. *Lepr Rev.* 2002;73:254-261.
9. Debacker M, Zinsou C, Aguiar J, Meyers W, Portaels F. Mycobacterium ulcerans disease (Buruli ulcer) following human bite. *Lancet.* 2002;360:1830.
10. Safdar A, McEvoy PL, Burns RG, Perfect JR. Clinical microbiological case: severe relapsing septal panniculitis in a healthy man from the south-eastern USA. *Clin Microbiol Infect.* 2002;8:801-802; 830-832.

Abstracts

1. Landry DC, Nelson AM, Neafie RC. Cutaneous and lymphatic botryomycosis in persons with HIV infection. USCAP Annual Meeting, Chicago, Ill, February 2002.
2. Nelson AM, Oroxom A, Chu W-S, Abbondanzo SL. Immunorestitution disease: immunopathological correlation in HIV-positive patients. USCAP Annual Meeting, Chicago, Ill, February 2002.
3. Nelson AM, Oroxom A, Chu W-S, Abbondanzo SL. Immunorestitution disease: immunopathological correlation in HIV-positive patients. VA HIV Meeting, Chicago, Ill, May 2002.
4. Meyers WM. Prophylactic effect of BCG vaccination in children against osteomyelitis in Mycobacterium ulcerans disease (Buruli ulcer). *Acta Tropica.* 2002;83:S73. 3rd European Congress on Tropical Medicine and International Health, Abstract WEPS013.
5. Debacker M, Aguiar J, Steunou C, Zinsou C, Meyers WM, Guédénon A, Dramaix M, Portaels F. Trends in Mycobacterium ulcerans disease (Buruli ulcer) patients as seen in a rural hospital in southern Benin, 1977 through 2000. *Acta Tropica.* 2002;83:S74. 3rd European Congress on Tropical Medicine and International Health, Abstract WEPS014.
6. Debacker M, Aguiar J, Meyers WM, Portaels F. Clinical and laboratory diagnosis of M. ulcerans disease. *Acta Tropica.* 2002;83:S74. 3rd European Congress on Tropical Medicine and International Health, Abstract WEPS015.
7. Meyers WM, Aguiar J, Guédénon A, Debacker M, Maleombho-Usher M, Abalos F, Portaels F. Spectrum of clinicopathologic features of Mycobacterium ulcerans disease (Buruli ulcer). *Acta Tropica.* 2002;83:S74. 3rd European Congress on Tropical Medicine and International Health, Abstract WEPS016.

Book Chapters

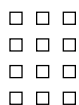
1. Kayembe K, Nelson AM, Colebunders RL. Opportunistic infections and diseases. In: Essex, et al, eds. *AIDS in Africa.* 2nd ed. Plenum Publishers; 2002.
2. Horsburgh CR Jr, Nelson AM. Mycobacterial diseases of the gastrointestinal tract. In: Blaser MJ, et al, eds. *Infections of the Gastrointestinal Tract.* 2nd ed. Raven Press, Ltd; 2002:831-845.

Other Publications

1. Nelson AM. Case for diagnosis: extrapulmonary pneumocystosis, CMV and Kaposi sarcoma, GI tract [handout]. International Academy of Pathology, Amsterdam, The Netherlands, October 2002.
2. Nelson AM. Case for diagnosis: pulmonary toxoplasmosis [handout]. International Academy of Pathology, Amsterdam, The Netherlands, October 2002.
3. Nelson AM. The pathology of modern antiretroviral therapy [handout]. International Academy of Pathology, Amsterdam, The Netherlands, October 2002.



Ted L. Hadfield, Lt Col, USAF, BSC (Ret)
Chief
Date of Appointment – April 1989



DIVISION OF MICROBIOLOGY

MISSION

The Division of Microbiology conducts research in the development of rapid, sensitive molecular assays to identify infectious agents in the laboratory and in the field. This effort has 6 components: 1) development of PCR assays employing fluorescent real-time technology for identification of biologic warfare agents from environmental and medical specimens; 2) identification of bacteria observed in paraffin-embedded tissues; 3) fingerprinting of bacterial agents using amplified fragment length polymorphism (AFLP); 4) support for the biosensors program; 5) *Brucella* vaccine development; and 6) consultations on infectious diseases. The division supports educational efforts by presenting seminars and lecturing at courses.

ORGANIZATION

The division is organized into 6 branches and the Office of the Chief.

1. Genetic Analysis Branch – Michael Dobson, CDR, MSC, USN
2. Biotechnology Development Branch – Michael Dempsey, Capt, USAF, BSC
3. Quality Assurance Branch – Normita Bravo, Maj, USAF, BSC
4. Vaccine Development Studies – Mina Izadjoo, PhD
5. Bacteriology – Dana Kadavy, PhD
6. Virology – Dongxiang Xia, PhD

STAFF**Scientific:**

- Ted L. Hadfield, Lt Col, USAF, BSC (Ret), Distinguished Scientist, Chief
- Normita Bravo, Maj, USAF, BSC
- Michael Dempsey, Capt, USAF, BSC
- (D) John C. David, LT, MSC, USN
- Michael Dobson, CDR, MSC, USN
- Robert M. Crawford, PhD, Program Manager, ARP
- (A) Meron Mathias, Molecular Biology Technician, ARP
- (A) Karen Hiza, Molecular Biology Technician, ARP
- Mina Izadjoo, PhD, ARP
- Binxue Zhang, MD, PhD, ARP
- Joseph Thompson, Research Assistant/Animal Caretaker, ARP
- Marie Ellen D'Nicuola, BS, Medical Technologist, ARP
- (A) Susan Ditty, BA, Research Microbiologist, ARP
- Adrian Ravizee, Research Assistant, ARP

Robert Burgess, Microbiologist, ARP
Elizabeth Harvell, Laboratory Worker, VA
Dana Kadavy, PhD, ARP
Michelle Ekis, MT, ASCP

(D) Ryan Bell, MS

Dongxiang Xia, MD, PhD, ARP

(A) Vanessa Marcel, Molecular Biology Technician, ARP

(A) Erica Penn, Microbiologist, ARP

(A) Bryan Balignot, SGT, USA

Administrative:

Levi Horton, ARP

DIAGNOSTIC CONSULTATION

The division conducted the following activities in 2002:

- Received 409 cases.
- Identified 19 organisms for WRAMC and did molecular fingerprinting for 3 suspected nosocomial incidents at Bethesda Naval Hospital.
- Actively participated in the CDC Laboratory Response Network.
- Participated in identification of anthrax from government sites (total of 6,538 samples tested as of 31 December 2002).
- Supported the US Air Force Biological Augmentation Teams by doing QA testing on PCR reagents manufactured for use on the RAPID thermal cycler. The division is also the hub for an Air Force PCR proficiency-testing program to qualify the Biological Augmentation teams and to monitor their performance throughout the year.
- Developed 26 new molecular biology assays. The Bacteriology Branch continued development of fluorescent-labeled probe hydrolysis and FRET assays for several bacterial agents considered biological warfare threats, including *Yersinia pestis*, *Burkholderia* sp and EEE (eastern equine encephalitis) virus.
- The molecular analysis team sequenced adenovirus types 1 and 4 for the Epidemiology Outbreak Surveillance project. Ongoing sequencing projects include additional strains of adenovirus type 4 and adenovirus type 6 in support of a DoD adenovirus vaccine project. Three diagnostic assays for adenovirus type 4 were designed and optimized for an IRB-approved protocol at Wilford Hall USAF Medical Center.
- The Molecular Analysis team did fingerprint analysis on *Brucella*, *Francisella*, *Burkholderia* and *Yersinia* isolates.

Impact:

1. We participated in a deployment to Sverdlovsk, Russia to assist an evaluation for dismantling of a former anthrax bioweapons site.
2. We were part of a team deployed to Uzbekistan to engage a former FSU weapons team in testing and evaluation of a weapons facility.
3. Joint field trials at Dugway Proving Grounds demonstrated the utility and quality performance of freeze-dried reagents in a double-blind open competition.
4. LRN testing assured courts and federal buildings were free of anthrax.
5. Reagent development and quality control provides Air Force a source of PCR reagents to monitor environmental samples for the presence of biological threat agents.
6. DNA sequence of adenovirus may impact US Army adenovirus vaccine development program and serves as a foundation for the epidemiologic outbreak surveillance program for identification and control of infectious disease epidemics.

Deployments:

TL Hadfield:

1. January 11, 2002, Standoff Detection Meeting
2. January 25, 2002, Signature Conference
3. January 21-23, 2002, Centers for Disease Control
4. January 29, 2002, IPR
5. February 24, 2002, Langley AFB Reagents Meeting
6. March 19-21, 2002, IPR

7. March 30-April 15, 2002, Dugway Field Trial
8. April 2-4, 2002, IPR
9. April 12, 2002, AF Reagents Meeting
10. May 19-23, 2002, ASM
11. May 26-30, 2002, Macedonia
12. June 1-7, 2002, Serpukhov, Russia, Vaccine Project Review
13. June 20-21, 2002, Centers for Disease Control
14. July 30-August 2, 2002, Poland, NATO Laboratory Meeting
15. August 19-20, 2002, Quality Assurance Laboratory IPR
16. September 9-11, 2002, EOS Summit Meeting
17. October 22-24, 2002, IPR

JC David:

1. January 29, 2002, IPR
2. March 19-21, 2002, IPR
3. April 2-4, 2002, IPR
4. May 19-23, 2002, ASM
5. August 19-20, 2002, Quality Assurance Laboratory IPR
6. October 22-24, 2002, IPR

RM Crawford:

1. January 29, 2002, IPR
2. March 19-21, 2002, IPR
3. April 2-4, 2002, IPR
4. May 19-23, 2002, ASM
5. August 19-20, 2002, Quality Assurance Laboratory IPR
6. September 9-11, 2002, EOS Summit Meeting
7. October 22-24, 2002, IPR

M Dempsey:

1. March 30-April 15, 2002, Dugway Field Trial
2. April 12, 2002, AF Reagents Meeting
3. May 19-23, 2002, ASM
4. December 2-6, 2002, Idaho Technology
5. December 9-12, 2002, Langley AFB (BT Meeting)

N Bravo:

1. March 24-28, 2002, SAFMLS
2. April 12, 2002, AF Reagents Meeting
3. December 9-12, 2002, Langley AFB (BT Meeting)

S Ditty:

1. September 9-11, 2002, EOS Summit Meeting
2. American Society for Microbiology, May 19-23, 2002: D Kadavy, B Zhang, D Xia, R Bell, M Izadjoo.
3. SAFMLS, March 24-28, 2002: R Burgess, C Gagni.

EDUCATION

Presentations and Seminars: Division staff made 18 presentations at professional meetings and conferences, and made 12 poster presentations. A complete list of dates and titles appears at the end of this report.

Courses and Workshops: Division staff gave educational presentations totaling 933 man-hours.

RESEARCH

Publications: Division staff published 4 journal articles in 2002. See the end of this report for complete bibliographical listings.

Projects: The division maintained 11 research projects in 2002:

1. Development of fluorescent-labeled probe hydrolysis assays for pathogens such as *Yersinia*

- pestis*, *Burkholderia*, *Brucella*, and *Variola*.
2. Development of fluorescent-labeled probe hydrolysis assays for RNA viruses.
3. Development of FRET assays for *Brucella*, *Yersinia*, *Francisella*, EEE, VEE, and WEE.
4. Fingerprinting of infectious agents *Brucella*, *Francisella*, and *Bacillus anthracis*.
5. Collaboration with team to develop a *Brucella* vaccine.
6. Population and maintenance of PCR database.
7. Multicenter testing of PCR assays.
8. Nanogen chip analysis for biologic threat agents.
9. DTRA-CRDF Russian-based vaccine project.
10. Validation of Laboratory Response Network reagents (CDC).
11. Quality assurance testing for Air Force PCR reagents.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. David Sickenberger, SBCCOM (ERDEC), Edgewood Proving Grounds
2. Michael Goode, SBCCOM (ERDEC), Edgewood Proving Grounds
3. David Hoover, COL, MC, USA, WRAIR
4. Luther Lindler, PhD, WRAIR
5. George Ludwig, PhD; John Ezzell, PhD; Sophie Ibrahim, PhD; USAMRIID
6. Dan Martin, PhD; Richard Warren; Dugway Proving Grounds
7. Daniel Atchley, PhD, Brooks AFB
8. Diane Calimlum, Wilford Hall Medical Center
9. Peter Emanuel, PhD, Program Executive Office for Chemical-Biological Defense

Civilian:

1. Kent Vorhees, PhD; Franco Basila, PhD; Angelo Madonna; Colorado School of Mines
2. Paul Jackson, PhD, Los Alamos National Labs
3. Paul Kiem, PhD, Northern Arizona University
4. Kurt Peterson, Deepika DeSilva, Randy Rassmussen, Todd Ritter, Idaho Technologies
5. Alan Samuels, Edgewood Proving Grounds
6. Steve Olsen, USDA, *Brucella* isolated from wildlife in Yellowstone Park
7. Bill Williams, University of Wyoming, Development of a vesicular stomatitis virus PCR assay
8. Linda Canis, Brooks AFB, Development of a herpes simplex 1 and 2 virus assay for detection of HSV in cerebrospinal fluid.

International:

Serpukhov Research Center for Toxicology and Hygienic Regulation of Biopreparations; *Brucella* Vaccine for Bison project with USDA, CRDF, DTRA, Texas A&M, and Turner Foundation.

Committees:

TL Hadfield:

1. Consultant, Signature Characterization (of Biological Agents), Patrick AFB
2. Member, Executive Committee for Common Medical Diagnostic Systems (for BWAs)
3. Member, American Public Health Association Bioterrorism Defense Panel (CDC-APHL-sponsored)
4. Panel Member, Defense Technology Objective for PCR
5. Panel Member, Computer-Based Training Committee, USAF

PRESENTATIONS

1. January 2002: Crystal City, Va, Ad Hoc Panel on Urban Standoff Detection of Biological and Chemical Agents, "Raman spectroscopy for identification of biological weapons of mass destruction," TL Hadfield, P Treado.
2. January 2002: Atlanta, Ga, CDC, "Summary of anthrax identification data," TL Hadfield, B Huff, D Brown.

3. March 2002: Spokane, Wash, SAFMLS Annual Meeting, "AFIP's LRN response to the anthrax release," TL Hadfield.
4. March 2002: Washington, DC, AFIP, "Database review," TL Hadfield, J David, R Crawford.
5. March 2002: Washington, DC, AFIP, "Multicenter PCR study," TL Hadfield, J David, R Crawford.
6. April 2002: Frederick, Md, USAMRIID IPR, "FRET multiplex screening PCR for *Brucella*, *Francisella* and *Yersinia* (1 target each) and 'batch' multiplex PCR for *Brucella* (3 genes), *Francisella* (3 targets), and *Yersinia*," TL Hadfield, B Zhang, D Kadavy, M Ekis, R Burgess, W Thomas, M Powers, T Ritter.
7. April 2002: Frederick, Md, USAMRIID IPR, "FRET multiplex PCR screening assay for eastern equine encephalitis virus, Venezuelan equine encephalitis virus and western equine encephalitis virus and 'batch' testing for two genes in EEE, VEE, and WEE," TL Hadfield, B Zhang, D Xia, A Ravizee, M Powers, T Ritter, R Rassmussen.
8. April 2002: Frederick, Md, USAMRIID IPR, "AFLP fingerprinting of *Burkholderia* and *Brucella* species," M Dobson, D Kadavy, R Burgess, W Thomas, M Ekis, TL Hadfield.
9. April 2002: Orlando, Fla, "Construction of positive controls," TL Hadfield, J David, R Crawford.
10. April 2002: Washington, DC, AFIP Staff Conference, "Anthrax testing at the Armed Forces Institute of Pathology," TL Hadfield, D Kadavy, JC David.
11. April/May 2002: Silmar, Calif, Naval Graduate School, MASINT Conference, "Sensitive and specific methods for rapid identification with reverse transcription-PCR assays for detection of ricin, SEB, botulinum toxins A and B, and eastern equine encephalitis virus," AS Kahn, KPO O'Connell, CJ Cao, J Bucher, SS Gotswami, M Goode, A Zulich, TL Hadfield, JJ Valdes.
12. April/May 2002: Silmar, Calif, Naval Graduate School, MASINT Conference, "Detection of *Francisella tularensis* within infected tissues using a hand-held PCR thermocycler," JL Dang, PA Emanuel, R Bell, R McClanahan, JC David, RJ Burgess, J Thompson, L Collins, TL Hadfield.
13. May 2002: Washington, DC, ACP Associates Annual Meeting, WRAMC, "Testing and preparing for West Nile virus in the District of Columbia, 2000-2002," M Wilck, R Blair, C Keller, M Croxton, TL Hadfield, M Dempsey, D Lucey.
14. May 2002: Alexandria, Va, Biodetection Technologies: Identification Innovations and Strategies, sponsored by Knowledge Foundation, Inc., "Testing for anthrax at the Armed Forces Institute of Pathology," TL Hadfield.
15. May 2002: Skopje, Macedonia, Federation of European Microbiologists Laboratory Diagnosis of Emerging Infections, 2nd Congress of Macedonian Microbiologists, "Response to the anthrax release in Washington, DC," TL Hadfield.
16. June 2002: Moscow, Russia, Surpukov Institute, "Bioterrorism in Washington, DC: testing for anthrax at the Armed Forces Institute of Pathology," TL Hadfield.
17. November 2002: 2002 Joint Service Scientific Conference on Chemical and Biological Defense Research, Chair, Diagnostics Session, TL Hadfield.
18. December 2002: Washington, DC, NMHM, AFIP "Experience in identification of *Bacillus anthracis*," TL Hadfield.

Poster Presentations

1. March 2002: Spokane, Wash, SAFMLS Annual Meeting, "Comparison of CDC PCR reagents and AFIP lyophilized reagents for *Bacillus anthracis*," M Dempsey, C Gagni, N Bravo, R Crawford, M D'Nicuola, M Dobson, R Bell, D Kadavy, M Ekis, R Burgess, W Thomas, J David, R Meyer, T Popovic, R Weyant, R Schoske, E Hilyard, TL Hadfield.
2. March 2002: Spokane, Wash, SAFMLS Annual Meeting, "Multicenter evaluation of PCR reagents for *Bacillus anthracis*," N Bravo, JC David, B Zhang, C Gagni, R Burgess, W Thomas, M Ekis, ME D'Nicuola, R Crawford, K Lohman, L Cooper, O Johnson, M Goode, S Shah, P Reilly, D Calimimlin, TL Hadfield.
3. March 2002: Spokane, Wash, SAFMLS Annual Meeting, "*Bacillus anthracis* analysis conducted at AFIP for the Washington, DC bioterrorism release," D Kadavy, TL Hadfield, JC David, R Burgess, R Bell, W Thomas, M Ekis, B Zhang, M Dempsey, M Dobson, C Gagni, D Xia, N Bravo, ME D'Nicuola, J McGraw, R Crawford, E Hilyard, R Schoske.
4. March 2002: Spokane, Wash, SAFMLS Annual Meeting, "Rapid detection of vesicular

- stomatitis virus by Light Cycler RT PCR with TaqMan Primer Probe Sets," D Xia, W Wilson, TL Hadfield.
5. March 2002: Spokane, Wash, SAFMLS Annual Meeting, "Sensitivity and specificity of FRET probes for identification of three target genes of *Yersinia pestis*," B Zhang, TL Hadfield, JC David, T Ritter, D DeSilva, M Powers.
 6. March 2002: Spokane, Wash, SAFMLS Annual Meeting, "PCR detection of *Francisella tularensis* in a mouse model," R Bell, JC David, J Thompson, R Burgess, TL Hadfield.
 7. May 2002: Salt Lake City, Utah, ASM Meeting, "Comparison of CDC PCR reagents and AFIP lyophilized reagents for *Bacillus anthracis*," M Dempsey, C Gagni, N Bravo, R Crawford, M D'Nicuola, M Dobson, R Bell, D Kadavy, M Ekis, R Burgess, W Thomas, J David, R Meyer, T Popovic, R Weyant, R Schoske, E Hilyard, TL Hadfield.
 8. May 2002: Salt Lake City, Utah, ASM Meeting, "Multicenter evaluation of PCR reagents for *Bacillus anthracis*," N Bravo, JC David, B Zhang, C Gagni, R Burgess, W Thomas, M Ekis, ME D'Nicuola, R Crawford, K Lohman, L Cooper, O Johnson, M Goode, S Shah, P Reilly, D Calimimlin, TL Hadfield.
 9. May 2002: Salt Lake City, Utah, ASM Meeting, "*Bacillus anthracis* analysis conducted at AFIP for the Washington, DC bioterrorism release," D Kadavy, TL Hadfield, JC David, R Burgess, R Bell, W Thomas, M Ekis, B Zhang, M Dempsey, M Dobson, C Gagni, D Xia, N Bravo, ME D'Nicuola, J McGraw, R Crawford, E Hilyard, R Schoske.
 10. May 2002: Salt Lake City, Utah, ASM Meeting, "Rapid detection of vesicular stomatitis virus by Light Cycler RT PCR with TaqMan Primer Probe Sets," D Xia, W Wilson, TL Hadfield.
 11. May 2002: Salt Lake City, Utah, ASM Meeting, "Sensitivity and specificity of FRET probes for identification of three target genes of *Yersinia pestis*," B Zhang, TL Hadfield, JC David, T Ritter, D DeSilva, M Powers.
 12. May 2002: Salt Lake City, Utah, ASM Meeting, "PCR detection of *Francisella tularensis* in a mouse model," R Bell, JC David, J Thompson, R Burgess, TL Hadfield.

PUBLICATIONS

Journal Articles

1. Garcia Del Blanco N, Dobson ME, Vela AI, De La Puente VA, Gutierrez CB, Hadfield TL, Kuhnert P, Frey J, Dominguez L, Rodriguez Ferri EF. Genotyping of *Francisella tularensis* strains by pulsed-field gel electrophoresis, amplified fragment length polymorphism fingerprinting, and 16S rRNA gene sequencing. *J Clin Microbiol.* 2002;40:2964-2972.
2. Bell CA, Uhl JR, Hadfield TL, David JC, Meyer RF, Smith TF, Cockerill FR 3d. Detection of *Bacillus anthracis* DNA by LightCycler PCR. *J Clin Microbiol.* 2002;40:2897-2902.
3. Bhattacharjee AK, Van de Verg L, Izadjoo MJ, Yuan L, Hadfield TL, Zollinger WD, Hoover DL. Protection of mice against brucellosis by intranasal immunization with *Brucella melitensis* lipopolysaccharide as a noncovalent complex with *Neisseria meningitidis* group B outer membrane protein. *Infect Immun.* 2002;70:3324-3329.
4. Espy MJ, Cockerill FR 3d, Meyer RF, Bowen MD, Poland GA, Hadfield TL, Smith TF. Detection of smallpox virus DNA by LightCycler PCR. *J Clin Microbiol.* 2002;40:1985-1988.



Shyh-Ching Lo, MD, PhD
Chief
Date of Appointment – 2 May 1991



DIVISION OF MOLECULAR PATHOBIOLOGY

MISSION

The Division of Molecular Pathobiology provides consultation services to the AFIP, other federal agencies, civilian institutions, clinicians, and research scientists on the pathology of unusual infections, especially by mycoplasmas, chlamydiae, and viruses. We provide consultation on electron microscopic diagnosis and studies of bacteria, viruses, and mycoplasmas, on various disease processes related to infections by microorganisms, and on molecular techniques in diagnosis and research. We study pathogenesis associated with infections of unusual microorganisms. We develop various immunological and molecular reagents for detection and diagnosis of certain biological warfare agents. We support the AFIP's educational program by providing lectures, courses, and training for visiting scientists, fellows, and students.

STAFF

Medical:

Shyh-Ching Lo, MD, PhD, Chief

Scientific:

- (D) Susan Ditty, BA, Research Microbiologist, ARP
- Shaw-Huey Feng, PhD, Immunologist/Scientist, ARP
- Christine L.D. Haley, BS, Molecular Biology Technician, ARP
- Bing-Jie Li, MD, Molecular Microbiologist, ARP
- (A) Tamara Newsome, MS, Research Microbiologist, ARP
- José Rodriguez, Research Technician, ARP
- Shien Tsai, PhD, Senior Research Scientist, ARP
- Shimin Zhang, MD, PhD, Senior Research Scientist, ARP
- Nianxiang Zou, PhD, Research Scientist, ARP

CONSULTATION

In addition to the consultation support in electron microscopic and immunohistochemistry diagnosis of unusual microbes for the Institute, division staff completed a serological evaluation of 3,000 Gulf War veterans for antibodies specific for 3 different human mycoplasmas. The results and analysis were published in a peer-reviewed medical journal in 2000. In addition, the division gave consultation to the Army on evaluation of current molecular diagnosis techniques of mycoplasma infections in veterans with Gulf War Illness. The laboratory has completed the study using coded blood samples from 50 patients with Gulf War Illness, evaluating 4 different PCR protocols as well as a highly unusual chromatin fractionation method. The results were presented to the Gulf War Health Center at Walter Reed Army Hospital and the Army Medical Command.

EDUCATION

Presentations and Seminars: Division staff gave 7 presentations in 2002, for a total of 370 man-hours. Dates and titles are listed at the end of this report.

RESEARCH

Publications: Division staff published 2 book chapters and 4 abstracts in 2002. Complete references are listed at the end of this report.

Projects: The division maintained 6 research projects in 2002, as listed below:

1. Effect of mycoplasmas on mitosis and checkpoint on chromosomal fidelity in mammalian cells.
2. Investigational studies of pathogenesis of a newly found human mycoplasma in mice.
3. Effect of mycoplasmas on steroid receptor functions.
4. GM-CSF signal pathway in IL-3 dependent 32D cells following mycoplasma infection and mycoplasma-mediated transformation.
5. Identification of mycoplasma gene(s) involved in transforming mammalian cells.
6. Mycoplasma infection and immortalization of human peripheral blood mononuclear cells.

Research Summary:

- We continued the study of patients with Gulf War Illness for a possible infectious etiology, including mycoplasmas.
- We studied the effects of chronic infection with mycoplasmas on transcriptional function of steroid receptors in mammalian cells.
- We developed a model system demonstrating a new molecular mechanism that could lead to chromosomal instability and cancer formation.
- Our laboratory applied microarray techniques to study mycoplasma effects on the alteration of gene expression in infected mammalian cells.
- Our laboratory developed a new highly sensitive technique to identify and clone genetic materials of previously unknown organisms that fail to grow in our current culture systems.
- We began to develop crucial biological and immunological reagents for detection and identification of certain biological warfare agents.

Impact:

1. *M. fermentans* has been proposed as the cause of Gulf War illness; however, our serological and molecular diagnostic studies argue against the possibility. The search for other possible infectious explanations has continued in our laboratory.
2. We were the first to demonstrate that chronic infection with mycoplasma could lead to malignant transformation of mammalian cells by developing an in vitro model.
3. We were the first to discover chronic infection with mycoplasmas could markedly enhance transcriptional function of steroid receptors in mammalian cells.
4. Our laboratory pioneered the study of mycoplasma effects on the alteration of gene expression in infected mammalian cells using various newly developed techniques.
5. Our laboratory successfully developed a highly sensitive technique that allows us to identify and clone genetic materials of previously unknown organisms that fail to grow in our current culture systems.
6. Our laboratory has started 2 new projects to support the effort of our nation's defense against biological warfare.

OTHER ACCOMPLISHMENTS

Collaborators:

Military:

Naval Medical Research Institute, Silver Spring, Md

Civilian:

Clinical Center, NIH, Bethesda, Md

Committees:

Member, Institutional Biosafety Committee (IBC), WRAMC, S-C Lo.

Member, Editorial Board, *Methods in Cell Science*, S-C Lo.

PRESENTATIONS

1. February 2002: Chicago, Ill, USCAP, "Chronic diseases with infectious roots," S-C Lo.
2. May 2002: Salt Lake City, Utah, 102nd General Meeting of the American Society for Microbiology, "cDNA array analysis of gene expression profiles in C3H cells undergoing malignant transformation following *M. fermentans* infection," S Zhang, S Tsai, S Ditty, S-C Lo.

3. May 2002: Salt Lake City, Utah, 102nd General Meeting of the American Society for Microbiology, "Experimental infections of mice with *Mycoplasma penetrans* isolated from patients with AIDS," B Li, S Tsai, J Rodriguez, M Hayes, S-C Lo.
4. May 2002: Salt Lake City, Utah, 102nd General Meeting of the American Society for Microbiology, "Infection by *M. fermentans* leads to rapid loss of human platelets and red blood cells in culture," S Zhang, S-C Lo.
5. July 2002: Beijing, China, Department of Biochemistry and Molecular Biology, Beijing University School of Oncology, Beijing Institute for Cancer Research, "Interaction of mycoplasmas with mammalian cells," S Zhang.
6. October 2002: Washington, DC, AFIP Staff Conference, "The needle in a haystack: seeking trace amounts of DNA of unknown sequences: a random priming PCR strategy," N Zou.
7. October 2002: Washington, DC, AFIP Staff Conference, "Chronic mycoplasmal infections: effects on steroid receptor function," S Zhang.

PUBLICATIONS

Abstracts

1. Zhang S, Tsai S, Ditty S, Lo S-C. cDNA array analysis of gene expression profiles in C3H cells undergoing malignant transformation following *M. fermentans* infection. Abstracts of the 102nd General Meeting of the American Society for Microbiology. 2002;221. Abstract G-9.
2. Li B, Tsai S, Rodriguez J, Hayes M, Lo S-C. Experimental infections of mice with *Mycoplasma penetrans* isolated from patients with AIDS. Abstracts of the 102nd General Meeting of the American Society for Microbiology. 2002;221. Abstract G-7.
3. Zhang S, Lo S-C. Lysis of human platelets and red blood cells in cultures by *M. fermentans*. Abstracts of the 102nd General Meeting of the American Society for Microbiology. 2002;221. Abstract G-8.
4. Lo S-C. Apoptotic, antiapoptotic, clastogenic and oncogenic effects of mycoplasmal infections. Abstracts of USCAP, 2002.

Book Chapters

1. Lo S-C. Apoptotic, antiapoptotic, clastogenic and oncogenic effects of mycoplasmas. In: Razin S, Herrmann R, eds. *Molecular Biology and Pathogenicity of Mycoplasmas*. New York, NY: Kluwer Academic/Plenum; 2002:403-416.
2. Zou N, Dybvig K. DNA replication and repair and stress response. In: Razin S, Herrmann R, eds. *Molecular Biology and Pathogenicity of Mycoplasmas*. New York, NY: Kluwer Academic/Plenum; 2002:303-321.



Kelly K. Koeller, CAPT, MC, USN
Chair
Date of Appointment — 8 January 2001



DEPARTMENT OF RADIOLOGIC PATHOLOGY

MISSION

The Department of Radiologic Pathology provides preeminent educational programs, research, and consultation services to the Armed Forces Institute of Pathology, the Department of Defense, and the global medical community, using a unique archive of radiologic and pathologic material.

ORGANIZATION

The department is organized into 6 sections and the Office of the Chair:

1. Gastrointestinal Radiology
2. Genitourinary Radiology
3. Musculoskeletal Radiology
4. Neuroradiology
5. Pediatric Radiology
6. Pulmonary and Mediastinal Radiology

STAFF

Medical:

- (A,D) Andre Duerinckx, MD, Distinguished Scientist, ARP
- Aletta A. Frazier, MD, Medical Illustrator, ARP
- Jeffrey R. Galvin, MD, Chief, Pulmonary and Mediastinal Radiology, ARP
- Kelly K. Koeller, CAPT, MC, USN, Chair and Chief, Neuroradiology
- Angela D. Levy, LTC, MC, USA, Associate Chair and Chief, Genitourinary Radiology
- Gael J. Lonergan, Lt Col, USAF, MC, Chief, Pediatric Radiology, MOU-USUHS
- (D) Kambiz Motamedi, MD, Junior Scientist, Musculoskeletal Radiology, ARP
- Mark D. Murphey, MD, Chief, Musculoskeletal Radiology, ARP
- (D) Cornelia J. Schwab, MD, Junior Scientist, Genitourinary Radiology, ARP
- (D) William M. Thompson, MD, Distinguished Scientist, ARP
- (A) Eric Walker, MD, Junior Scientist, Musculoskeletal Radiology, ARP
- (A) Anthony J. Wilson, MD, Distinguished Scientist, ARP
- Paula J. Woodward, MD, Chief, Genitourinary Radiology, ARP

Administrative:

- Janeth Amarillo, Digitization Specialist, ARP
- (D) Christopher Buchanan, Administrative Assistant, ARP
- (D) Arnold M. Gittleson, Course Coordinator, ARP
- Adahlia M. Glover, Case Manager, ARP
- (A) Sharon Holquin, Digitization Technician, ARP
- (A) Jessica Holquin, Digitization Technician, ARP
- Kathy M. Rahimly, Case Manager, ARP, Part-time
- (D) Annette Simpson, Systems Manager, Contract Employee
- (D) Earlene Turner, Weekend Course Coordinator, ARP
- Alethia B. West, Case Management, Supervisor, ARP
- (A,D) Linda C. Wilkins, Administrative Assistant, Contract Employee

Carl D. Williams, Course Coordinator and Categorical Course Coordinator, ARP
(A) Ben Yohannes, Systems Manager, Contract Employee

DIAGNOSTIC CONSULTATION

The department conducts only intramural radiologic consultation. Consultation was provided on 2,310 class cases (contributed by residents attending the 5 Radiologic Pathology Courses), and 440 cases submitted by the various AFIP pathology departments.

EDUCATION

Presentations and Seminars: Department staff provided 420 presentations during 2002. Complete information is provided at the end of this report.

Departmental Conferences: The staff conducted 796 departmental conferences, as listed below:

Intramural:

Gastrointestinal Radiology:

- 2 (2 hours) per month, Gastrointestinal Pathology Conferences
- 1 (1.5 hours) per month, Endocrine Pathology Conference
- 2 (2 hours) annually, Hematopathology Conferences
- 1 (1 hour) per month, Hepatic Pathology Conference

Genitourinary Radiology:

- 3 (1 hour) per month, Genitourinary Pathology Conferences
- 1 (1.5 hours) per month, Endocrine Pathology Conference

Musculoskeletal Radiology:

- 16 (1 hour) per month, Orthopedic Pathology Conferences
- 4 (1 hour) per month, Soft Tissue Pathology Conferences
- 4 (1 hour) per year, Oral and Maxillofacial Pathology Conferences

Neuroradiology:

- 3 (1 hour) per month, Neuropathology Conferences
- 1 (1 hour) per month, Otolaryngic Pathology/Oral Maxillofacial Pathology Conference

Pediatric Radiology:

- 1 (1 hour) per month, Pulmonary and Mediastinal Pathology Conference

Pulmonary and Mediastinal Radiology:

- 2 (2 hours) per month, Pulmonary and Mediastinal Pathology Conferences
- 6 (1 hour) per year, Cardiovascular Pathology Conferences

Extramural:

Genitourinary Radiology:

- 4 (1 hour) per month, Resident and Fellow Conferences, University of Maryland Medical Center

Musculoskeletal Radiology:

- 4 (1.5 hours) per month, Orthopedic Oncology/Radiology Conferences, NIH
- 4 (1.5 hours) per month, Orthopedic Resident Conferences, WRAMC
- 4 (1 hour) per month, Rheumatology Conferences, WRAMC
- 1 (1 hour) conference per month, National Institutes of Health
- 1 (1 hour) conference per month, Washington Hospital Center
- 1 (1 hour) per month, Radiology Resident Conference, University of Maryland Medical Center
- 4 (1 hour) per month, Orthopedic Oncology/Radiology/Pathology Conferences, Sinai Medical Center, Baltimore, Md
- 1 (1 hour) conference per month, WRAMC
- 2 (1 hour) per month, Spine Trauma Conferences, University of Maryland Medical Center
- 2 (1 hour) per month, Radiology Resident Teaching Conferences, WRAMC, Georgetown University, National Naval Medical Center, Howard University
- 4 (1 hour) per year, Sports Medicine Conferences, National Naval Medical Center

Pulmonary Radiology:

- 1 (2 hours) per week, Pulmonary Medicine Conference, WRAMC

Seminars: The staff conducted 171 seminars, as listed below:

Gastrointestinal Radiology:

- 26 (1 hour) per year, Department of Radiology, USUHS
- 2 (1 hour) per year, Department of Radiology, WRAMC
- 5 (1 hour) per year, Department of Gastroenterology, WRAMC

Genitourinary Radiology:

- 1 (1 hour) per week, University of Maryland Resident and Fellow Conference
- 1 (1 hour) per year, Radiology Department, WRAMC

Musculoskeletal Radiology:

- 1 (1 hour) per month, National Naval Medical Center
- 1 (1 hour) bimonthly, University of Maryland Medical Center
- 2 (1 hour) per month, Rheumatology Department, WRAMC
- 1 (1 hour) per month, Washington Hospital Center
- 1 (1 hour) per month, National Institutes of Health
- 2 (1 hour) per year, Radiology Department, WRAMC
- 8 (1 hour) per year, USUHS

Neuroradiology:

- 1 (1 hour) per year, WRAMC
- 1 (1 hour) per year, National Naval Medical Center
- 1 (1 hour) per year, USUHS

Pediatric Radiology:

- 3 (1 hour) per year, National Naval Medical Center
- 3 (1 hour) per year, WRAMC
- 48 (1 hour) per year, USUHS

Pulmonary and Mediastinal Radiology:

- 5 (1 hour) per year, University of Maryland Medical Center

Courses:

1. *AFIP Courses in Collaboration with Foreign Radiological Societies:* Five international short courses were held in Spain, Austria, Portugal, Brazil, France, Canada, and Mexico. These courses were sponsored by the radiological societies of the host countries, in association with AFIP and ARP. Our department provided the curriculum and faculty. Courses held in France, Brazil, and Canada were large scientific assemblies and annual meetings of the radiological societies of these countries, and featured the Department of Radiologic Pathology as a specific section on radiologic-pathologic correlation within the course curriculum. Courses held in Spain, Austria, and Portugal were provided entirely by the staff of our department, in collaboration with the appropriate national or local radiological societies. The course in Mexico is hosted by the Central Military Hospital and the department staff compose the bulk of the faculty members. These courses ensure dissemination of the principles of radiologic-pathologic correlation to radiologists and physicians who do not traditionally participate in the department's Radiologic Pathology Courses. The courses were extremely well received and it is expected that they will continue on an annual basis. See exact listing of lectures under PRESENTATIONS at the end of this report.
2. *AFIP Radiologic Pathology Courses:*
 - 6-week Radiologic Pathology Course: Five courses were conducted in 2002, attended by 1,221 US radiology residents (35 federal, 1,186 nonfederal), and 159 residents from outside the country. Approximately 137 man-days of training were provided. The course remains subscribed nearly 2 years in advance and is attended by the vast majority of diagnostic radiology residents in the United States. The Radiologic Pathology Course is also offered to radiologists who have completed their training.
 - 1-week categorical courses (held within the 6-week Radiologic Pathology Courses): Six courses were offered in Pulmonary and Mediastinal Radiology, Abdominal Imaging, Neuroradiology, and Musculoskeletal Radiology, attended by 121 health professionals, providing approximately 203 hours of CME credit.

- Weekend courses: Five courses were provided. A total of 244 health professionals attended for 488 attendee-days and 62 hours of CME credit.

Course	Enrollment	Attendee-Days
Neuroradiology Washington	117	234
Uroradiology Case Studies	67	134
Musculoskeletal Radiology	30	60
Pulmonary Radiology	30	60

3. *Radiologic Pathology Participation in Courses Held by Other AFIP Departments:* Department staff provided lectures in courses hosted by the Department of Neuropathology.

Trainees: Junior scientists begin a post-residency year in graduate medical education in certain subspecialty areas of radiology on July 1 and end this training June 30 of the following year. Junior scientists participate in the daily activities of the subspecialty section and are mentored by the section chief. In 2002, the department hosted 2 junior scientists. In addition, research assistants may collaborate on various projects with the department's medical staff on a selected basis.

RESEARCH

Research is based on the contents of the departmental archives, which are mainly derived from cases contributed by residents attending the Radiologic Pathology Courses. There were 6 investigative research projects and 12 educational research projects in progress in 2002.

Publications: Department staff published 20 journal articles, 5 abstracts, 1 book, and 2 book chapters in 2002. A complete listing appears at the end of this report.

Projects:

Investigative:

1. GJ Loneragan, Comparison of Fracture Age Dating at Radiology versus Histology
2. GJ Loneragan, Cystic Extralobar Sequestration: Correlation with Associated Cystic Adenomatoid Malformation
3. AD Levy, PR Ros, Magnetic Resonance Imaging of Solid and Pseudopapillary Neoplasms of the Pancreas
4. AD Levy, JS Statler, LD Thompson, Lymphoepithelial Cysts of the Pancreas: Radiologic-Pathologic Correlation
5. AD Levy, SM Abbodanzo, RM Abbott, Littoral Cell Angioma of the Spleen: Imaging Features with Clinical and Pathologic Correlation
6. AD Levy, HE Remotti, WM Thompson, LE Sobin, M Miettinen, Gastrointestinal Stromal Tumors: Radiologic-Pathologic Correlation

Educational:

1. KK Koeller, Cerebral Intraventricular Neoplasms: Radiologic-Pathologic Correlation
2. AD Levy, CR Rohrmann, Biliary Cystic Disease
3. AD Levy, The Stomach: Radiologic-Pathologic Correlation
4. AD Levy, CR Rohrmann, Diseases of the Gallbladder and Bile Ducts
5. AD Levy, RM Abbott, NS Aguilar, Imaging of Vascular Neoplasms of the Spleen
6. AD Levy, RM Abbott, KM Ayotte, WM Thompson, Malignant Melanoma of the Gastrointestinal Tract: Radiologic Features with Pathologic Correlation
7. C Schwab, PJ Woodward, Urachal Carcinoma
8. PJ Woodward, C Schwab, IA Sesterhenn, Extratesticular Scrotal Masses
9. PJ Woodward, A Rosenfeld, Renal Capsular Tumors
10. PJ Woodward, A Rosenfeld, Retroperitoneal Spaces
11. PJ Woodward, D Green, Incidental Findings on Abdominal CT: Endometriosis: Radiologic-Pathologic Correlation
12. PJ Woodward, Mullerian Duct Anomalies Complicated by Obstruction: Evaluation with Pelvic Magnetic Resonance Imaging

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Department of Radiology and Nuclear Medicine, USUHS
2. Robert M. Abbott, Maj, USAF, MC, Wilford Hall Medical Center, San Antonio, Tex
3. H. Theodore Harcke, COL, MC, USN, E.I. duPont Hospital for Children, Wilmington, Del
4. David E. Grayson, Capt, USAF, MC, Wilford Hall Medical Center, San Antonio, Tex
5. Perry J. Pickhardt, LCDR, MC, USN, National Naval Medical Center, Bethesda, Md

Civilian:

1. Department of Radiology, University of Maryland Medical Center
2. American College of Radiology
3. Association of Program Directors in Radiology
4. American Osteopathic College of Radiology
5. Association of University Radiologists
6. American Roentgen Ray Society
7. Radiological Society of North America
8. Charles A. Rohrmann, Jr., MD, University of Washington, Seattle, Wash
9. Pablo R. Ros, MD, MPH, Brigham and Women's Hospital, Harvard University, Boston, Mass
10. William M. Thompson, MD, Duke University, Durham, NC

International:

1. Society of Mexican Radiologic Imaging, Mexico City, Mexico
2. Fundación XIII Congreso Internacional de Radiologica, Madrid, Spain
3. Curso de Correlacao Anatomo-Radiologica, Lisbon, Portugal
4. Jornada Paulista de Radiologica, Sao Paulo, Brazil
5. Journées Française de Radiologie, Paris, France
6. Canadian Association of Radiology, Montreal, Quebec

Honors: JR Galvin was elected to the Fleischner Society.

Committees:

KK Koeller:

1. Member, Learning File Development Committee, American College of Radiology
2. Member, Scientific Exhibit Committee, American Society of Neuroradiology
3. Member, Audio-visual Committee, American Society of Neuroradiology
4. Moderator, American Society of Neuroradiology 40th Annual Meeting, Vancouver, BC

GJ Lonergan:

Member, Program Committee, Society of Pediatric Radiology

MD Murphey:

1. Member, *RadioGraphics* Exhibit Review Committee, Musculoskeletal Section, Radiological Society of North America
2. Member, CPI/Musculoskeletal Radiology Expert Review Panel, American College of Radiology
3. Moderator, 28th Annual Refresher Course of the International Skeletal Society, Geneva, Switzerland

PJ Woodward:

1. Member, Genitourinary Program Committee, Radiological Society of North America
2. Moderator, Genitourinary Program, Radiological Society of North America 88th Annual Meeting

Offices Held:

JR Galvin:

1. President, Society of Thoracic Radiology
2. Associate Editor, Education Center Materials, Radiological Society of North America

KK Koeller:

1. Alternate Councilor to the American College of Radiology, American Society of Neuroradiology
2. Chair, Ad Hoc Committee on the AFIP, Association of Program Directors in Radiology

GJ Lonergan:

Chair, Military Unique Curriculum in Diagnostic Radiology Committee

Editorial Boards:

1. *RadioGraphics*, JR Galvin, KK Koeller, PJ Woodward
2. *Skeletal Radiology*, MD Murphey
3. Editor, American College of Radiology CD-ROM Learning Disk, Neuroradiology, KK Koeller

Manuscripts Reviewed: Members of the department are manuscript reviewers for the following professional journals:

1. *American Journal of Roentgenology*
2. *RadioGraphics*
3. *Radiology*
4. *Journal of Computer Assisted Tomography*
5. Medpix Medical Imaging Database, <http://rad.usuhs.mil/medpix/radpix.html>
6. *Skeletal Radiology*
7. *Journal of Magnetic Resonance*
8. *Cancer*
9. *Ultrasound in Obstetrics and Gynecology*

Faculty Appointments:**JR Galvin:**

University of Maryland School of Medicine, Clinical Professor, Department of Radiology

KK Koeller:

1. USUHS, Assistant Professor of Radiology and Nuclear Medicine
2. National Naval Medical Center, Staff Radiologist

AD Levy:

1. WRAMC, Department of Radiology
2. USUHS, Assistant Professor of Radiology and Nuclear Medicine

GJ Lonergan:

1. USUHS, Associate Professor of Radiology and Nuclear Medicine and Pediatrics
2. George Washington University School of Medicine, Clinical Assistant Professor of Radiology

MD Murphey:

1. USUHS, Associate Professor of Radiology and Nuclear Medicine
2. University of Maryland School of Medicine, Clinical Professor, Department of Radiology

PJ Woodward:

1. University of Maryland School of Medicine, Clinical Associate Professor of Radiology
2. University of Utah School of Medicine, Adjunct Associate Professor of Radiology

Continuing Education: All hours are Category 1, except where noted.

AA Frazier: 33 hours – Society of Thoracic Radiology's Thoracic Imaging 2002.

JR Galvin: 33 hours – Society of Thoracic Radiology's Thoracic Imaging 2002.

KK Koeller: 15 hours – 17th Annual Washington Neuroradiology Review Course; 40.75 hours – American Society of Neuroradiology; 6.75 hours – World Class CT and MR; 2 hours – AFIP; 7 hours – Radiological Society of North America 88th Scientific Assembly and Annual Meeting; 2 hours – World Class Radiology: National Diagnostic Symposium.

GJ Lonergan: 7.5 hours – Radiological Society of North America 88th Scientific Assembly and Annual Meeting; 36 hours – AFIP Musculoskeletal Radiology Categorical Course; 38.5 hours – Society of Pediatric Radiology.

AD Levy: 24.75 hours – Society of Computed Body Tomography and Magnetic Resonance Imaging 2002; 5 hours – AFIP Quality Assurance/Risk Management Legal Medicine 2002; 4 hours – Radiologic Society of North America 88th Scientific Assembly and Annual Meeting.

MD Murphey: 40.25 hours – International Skeletal Society Annual Refresher Course; 1 hour – AFIP; 20.75 hours – Radiological Society of North America 88th Scientific Assembly and Annual Meeting; 16.5 hours – Society of Skeletal Radiology; 24 hours – American Roentgen Ray Society.

PJ Woodward: 31.5 hours – International Urogenital Radiology; 10.5 hours – Radiological Society of North America 88th Scientific Assembly and Annual Meeting.

PRESENTATIONS

Visiting Professorships:

1. January 2002: Charlottesville, Va, University of Virginia, "Imaging of soft tissue tumors: a systematic approach," "Paget disease: new and old," "Imaging of arthritis: approach and inflammatory disease," "Unknown seminar," MD Murphey.
2. March 2002: San Antonio, Tex, Wilford Hall Medical Center, "CNS lymphoma," KK Koeller.
3. March 2002: Salt Lake City, Utah, University of Utah School of Medicine, "GU/US Board Review," PJ Woodward.
4. March 2002: San Antonio, Tex, Brooke Army Medical Center, "Imaging of the orbit: the globe and conal lesions," "Imaging of the orbit: intraconal and extraconal lesions," KK Koeller.
5. April 2002: Dothan, Ala, Southeast Alabama Medical Center, "Cerebral ischemia: the basics," KK Koeller.
6. November 2002: Albuquerque, NM, University of New Mexico School of Medicine, "Renal masses: malignant," "Renal masses: benign," GU unknown cases," "Fetal anomalies rad/path correlation," PJ Woodward.
7. November 2002: Salt Lake City, Utah, University of Utah School of Medicine, "Barium 101," PJ Woodward.

AFIP Courses:

Department of Radiologic Pathology Courses:

1. February 2002: Bethesda, Md, 17th Annual Washington Neuroradiology Review Course, "Fetal CNS malformations," PJ Woodward.
2. February 2002: Bethesda, Md, 17th Annual Washington Neuroradiology Review Course, "Acquired white matter diseases," "Spinal cord neoplasms," KK Koeller.
3. May 2002: Washington, DC, AFIP, 8th Annual Musculoskeletal Imaging Weekend, "Imaging of muscle abnormalities," MD Murphey.
4. May 2002: Washington, DC, AFIP, 8th Annual Musculoskeletal Imaging Weekend, "Systematic imaging approach to soft tissue tumors," MD Murphey.
5. May 2002: Washington, DC, AFIP, 8th Annual Musculoskeletal Imaging Weekend, "Imaging of arthritis: approach and inflammatory disease," MD Murphey.
6. June 2002: Washington, DC, Uroradiology Review Course, "Basics of computed tomography," "Basics of ultrasound," "Solid renal masses," "Infiltrative renal masses," "MRI case studies," PJ Woodward.
7. June 2002: Washington, DC, Uroradiology Review Course, "Pediatric uroradiology review," GJ Loneragan.
8. September 2002: Washington, DC, 11th Annual Pulmonary and Mediastinal Radiology Course, "Pulmonary hypertension and infarction," "Idiopathic interstitial pneumonias," "The WHO classification of lung cancer," JR Galvin.

Radiologic Pathology 6-Week Course Lectures: The following lectures are provided by Department of Radiologic Pathology staff in the 6-week Radiologic Pathology Course held 5 times in 2002:

JR Galvin:

- Airway Disease I-II
- An Approach to Diffuse Lung Disease I-II
- Imaging in Febrile Bone Marrow Transplant

- Inhalation Lung Disease
- Lung Carcinoma: WHO Classification
- Lymphoid Lesions
- Pulmonary Angiitis and Granulomatosis
- Pulmonary Hypertension and Infarction
- Staging of Lung Cancer
- The Diagnosis of Pulmonary Embolism
- Seminars in Chest Radiology

KK Koeller:

- Acquired White Matter Disease
- Cerebral Ischemia
- CNS Lymphoma
- Congenital Cystic Neck Masses
- Congenital CNS Anomalies
- Head Trauma
- Infrahyoid Neck
- Orbit I-II
- Suprahyoid Neck
- Temporal Bone I-II
- Seminars in Neuroradiology

AD Levy:

- Abdominal Manifestations of Lymphoma
- Anorectal Imaging
- Benign Biliary Disease
- Diffuse Diseases of the Small Bowel
- Esophageal Neoplasms
- Gastrointestinal Polyposis Syndromes
- Gastric and Duodenal Malignant Neoplasms
- Infectious and Parasitic Diseases of the Abdomen I-II
- Non-neoplastic Diseases of the Stomach
- Tumors of the Gallbladder and Biliary Tract
- The Appendix: Appendicitis and Beyond
- Seminars in Gastrointestinal Radiology

GJ Loneragan:

- Adrenal Tumors of Childhood I-II
- Cranial Sonography
- Congenital Heart Disease I-IV
- Cystic Fibrosis
- Cystic Renal Disease of Childhood
- Forensic Radiology of Child Abuse I-II
- Neonatal Lung Disease
- Pediatric Nuclear Medicine
- Radiology of Situs
- Renal Tumors of Childhood
- Sickle Cell Anemia
- Seminars in Pediatric Radiology

MD Murphey:

- Alphabet Soup: Cystic Lesions of Bone
- Cartilaginous Lesions of Bone I-II
- Fibrous Lesions of the Musculoskeletal System I-II
- Juxta-articular Musculoskeletal Masses I-II
- Musculoskeletal Angiomatous Lesions

- Musculoskeletal Infections I-II
- Musculoskeletal Manifestations of Chronic Renal Insufficiency
- Musculoskeletal Neoplasm: Fundamental Concepts I-II
- Osseous Lesions of Bone I-II
- Paget Disease
- Total Joint Replacement/Bone Graft
- Seminars in Musculoskeletal Radiology

PJ Woodward:

- Benign Renal Masses
- Fetal CNS Malformations
- First Trimester Ultrasound
- GU Trauma
- Malignant Renal Masses
- Retroperitoneum
- Uterine Disorders I-II
- Seminars in Genitourinary Radiology

Courses Offered by Other AFIP Departments:

May 2002: Bethesda, Md, AFIP Neuropathology Muscle Disorders Course and Workshop, "Magnetic resonance imaging of muscle," MD Murphey.

Non-AFIP Courses:

1. January 2002: Taipei, Taiwan, Radiological Society of the Republic of China, Categorical Course of Radiologic-Pathologic Correlation in Thoracic Imaging, "Idiopathic interstitial pneumonias," "Pneumonconioses," "Lymphoid lesions," "Vascular disease," JR Galvin.
2. February 2002: Mexico City, Mexico, Society of Mexican Radiology and Imaging, 36th Annual Course of Radiology and Imaging, "Gastric malignancies," "Gallbladder and biliary neoplasms," "Polyposis syndromes," "Update in gastrointestinal lymphoma," AD Levy.
3. February 2002: Mexico City, Mexico, Society of Mexican Radiology and Imaging, "Medical diseases of the neonatal chest," "Sonographic evaluation of the acute pediatric scrotum," "Cranial sonography," "Renal tumors of children," "Cystic renal disease of childhood," GJ Lonergan.
4. February 2002: Maui, Hawaii, 18th Annual Masters Radiology Conference, "Imaging of bone tumors: a systematic approach," MD Murphey.
5. February 2002: Maui, Hawaii, 18th Annual Masters Radiology Conference, "Imaging of soft tissue tumors: a systematic approach," MD Murphey.
6. February 2002: Maui, Hawaii, 18th Annual Masters Radiology Conference, "Alphabet soup: cystic lesions of bone," MD Murphey.
7. February 2002: Maui, Hawaii, 18th Annual Masters Radiology Conference, "Imaging of arthritis: approach and inflammatory disease," MD Murphey.
8. February 2002: Maui, Hawaii, 18th Annual Masters Radiology Conference, "Unusual musculoskeletal infections," MD Murphey.
9. March 2002: San Francisco, Calif, Society of Thoracic Radiology National Meeting, "Lymphoid lesions," JR Galvin.
10. March 2002: Ponte Vedra Beach, Fla, Society of Skeletal Radiology 25th Annual Meeting, "Imaging characteristics of spindle cell lipoma," LW Bancroft, MJ Kransdorf, JJ Peterson, M Sundaram, MD Murphey.
11. March 2002: Ponte Vedra Beach, Fla, Society of Skeletal Radiology 25th Annual Meeting, "Imaging of pigmented villonodular synovitis (PVNS) of the spine," K Motamedi, MD Murphey, JF Fetsch, MA Furlong, TV Vinh, W Laskin, DE Sweet.
12. March 2002: Ponte Vedra Beach, Fla, Society of Skeletal Radiology 25th Annual Meeting, "Prospective diagnosis of soft-tissue tumors," MD Murphey, GC Nomikos.
13. March 2002: Ponte Vedra Beach, Fla, Society of Skeletal Radiology 25th Annual Meeting, "Imaging of nodular fasciitis with emphasis on advanced imaging," PA Dinauer, MD Murphey, S Smith.
14. March 2002: Ponte Vedra Beach, Fla, Society of Skeletal Radiology 25th Annual Meeting, "Unusual metastatic pathways of liposarcoma," JS Jelinek, K Motamedi, BR Hanson, MD

Murphey, MM Malawer.

15. March 2002: Ponte Vedra Beach, Fla, Society of Skeletal Radiology 25th Annual Meeting, "Advanced imaging of chondroblastoma," GC Nomikos, MD Murphey, JS Jelinek, FH Gannon.
16. March 2002: Ponte Vedra Beach, Fla, Society of Skeletal Radiology 25th Annual Meeting, "Cystic adventitial disease imaging appearance," LW Bancroft, MJ Kransdorf, MD Murphey, JJ Peterson.
17. March 2002: San Francisco, Calif, Society of Thoracic Radiology Annual Meeting, "Pulmonary hypertension from the inside out," AA Frazier.
18. April 2002: Davos, Switzerland, International Diagnostic Course, "Male pelvis," PJ Woodward.
19. April 2002: Bethesda, Md, NIH PLCO Medical Abstractors Conference, "Imaging of PLCO neoplasms," AD Levy.
20. April 2002: Bethesda, Md, USUHS, Problem Oriented Radiology Course, "Basics of acute cerebrovascular disease."
21. April - May 2002: Atlanta, Ga, 102nd American Roentgen Ray Society Annual Meeting, "Musculoskeletal infection," MD Murphey.
22. May 2002: American Thoracic Society, "The idiopathic interstitial pneumonias," "Practical chest imaging for the pulmonologist," JR Galvin.
23. May 2002: Washington, DC, AFIP, 8th Annual Musculoskeletal Imaging Weekend, "Imaging of muscle abnormalities," MD Murphey.
24. May 2002: Washington, DC, AFIP, 8th Annual Musculoskeletal Imaging Weekend, "Systematic imaging approach to soft tissue tumors," MD Murphey.
25. May 2002: Washington, DC, AFIP, 8th Annual Musculoskeletal Imaging Weekend, "Imaging of arthritis: approach and inflammatory disease," MD Murphey.
26. June 2002: Genoa, Italy, International Urogenital Radiology, "Ovarian tumor staging," "Pitfalls in urogenital US," PJ Woodward.
27. July 2002: Minneapolis, Minn, World Class MR and CT: Achieving Excellence in Neuro/Skeletal Imaging Conference, "Imaging of head trauma," "Acquired white matter disease," "Imaging of the suprahyoid neck: space-specific differential diagnosis," "Temporal bone neoplasms by location."
28. September 2002: Buenos Aires, Argentina, 48th Annual Argentine Congress of Radiology, "Cerebral ischemia," "Imaging of head trauma," "Spinal cord neoplasms," "Intra-axial neoplasms," "Uncommon neuroepithelial tumors," "Neuroimaging manifestations in the immunocompromised patient."
29. September 2002: Toronto, Ontario, 17th Annual Organ Imaging Review, University of Toronto, "Diffuse liver disease," "Update in liver neoplasms," "Unknown liver cases," AD Levy.
30. October 2002: Mexico City, Mexico, 15th Annual Reunión de Radiología e Imagen, Central Hospital Militar, "Congenital CNS anomalies," "Spinal cord neoplasms," "Acquired white matter diseases," "Neuroimaging manifestations in the immunocompromised patient."
31. October 2002: Paris, France, Journées Françaises de Radiologie, "Gastrointestinal lymphoma," "Gallbladder and biliary neoplasms," "Imaging of diffuse liver disease," "Unusual pancreatic neoplasms," AD Levy.
32. December 2002: Chicago, Ill, Radiological Society of North America 88th Annual Meeting, Neuroradiology Refresher Course, "Central nervous system neoplasms: intra-axial," KK Koeller.
33. December 2002: Chicago, Ill, Radiological Society of North America 88th Annual Meeting, "Fungal infections: from head to toe," KK Koeller, JR Galvin, AD Levy, MD Murphey.
34. December 2002: Orlando, Fla, National Diagnostic Imaging Symposium World Class Radiology, "Cerebral ischemia," "Neuroradiologic manifestations in the immunocompromised patient," KK Koeller.

Scientific Exhibits:

1. March 2002: Vienna, Austria, European Congress of Radiology Annual Meeting, "Computed tomographic appearance of adenocarcinomas of the urachus: review of 25 cases," CM Schwab, PJ Woodward.
2. December 2002: Chicago, Ill, Radiological Society of North America 88th Annual Meeting, "Ameloblastoma of the jaw: characteristics with pathologic correlation," SE Smith, MD

Murphey, KK Koeller.

3. December 2002: Chicago, Ill, Radiological Society of North America 88th Annual Meeting, "Imaging of cystic adventitial disease of the peripheral arteries," JJ Peterson, LW Bancroft, MJ Kransdorf, MD Murphey, MG Fox, SJ Moulton.
4. December 2002: Chicago, Ill, Radiological Society of North America 88th Annual Meeting, "Multimodality imaging of the atrioventricular groove: an important landmark for understanding cardiac anatomy and pathology," RM Steiner, AA Frazier, BL McComb, GA Agrons.
5. December 2002: Chicago, Ill, Radiological Society of North America 88th Annual Meeting, "The radiologist and the Internet: continuous learning while you work," MP D'Alessandro, JR Galvin, JJ Choi.

PUBLICATIONS

Journal Articles

1. Bancroft LW, Peterson JJ, Kransdorf MJ, Nomikos GC, Murphey MD. Soft tissue tumors of the lower extremities. *Radiol Clin North Am.* 2002;40:991-1011.
2. Chebli C, Murphey MD, Wientroub S, Collins MT. Orthopedic concerns in children with endocrine disorders. *J Pediatr Orthop.* 2002;11:183-191.
3. Croft DR, Trapp J, Kernstine K, Krichner P, Mullan B, Galvin JR. FDG-PET imaging and the diagnosis of non-small cell lung cancer in region of high histoplasmosis prevalence. *Lung Cancer.* 2002;36:297-301.
4. Galvin JR. American Thoracic Society/European Respiratory Society International multidisciplinary consensus classification of the idiopathic interstitial pneumonias. *Am J Respir Crit Care Med.* 2002;165:277-304.
5. Grayson DE, Abbott RM, Levy AD, Sherman PM. Emphysematous infections of the abdomen and pelvis: a pictorial review. *RadioGraphics.* 2002;22:543-561.
6. Groom KR, Murphey MD, Howard LM, Lonergan GJ, Rosado de Christensen ML, Torop AH. Mesenchymal hamartoma of the chest wall: radiologic manifestations with emphasis on cross-sectional imaging and pathologic correlation. *Radiology.* 2002;222:205-211.
7. Harcke TH, Levy AD, Lonergan GL. The sonographic appearance and detectability of non-opaque and semi-opaque materials of military origin. *Mil Med.* 2002;167:459-63.
8. Harcke HT, Schauer DA, Harris RM, Campman SC, Lonergan GJ. Imaging body armor. *Mil Med.* 2002;167:267-271.
9. Jelinek JS, Murphey MD, Welker JA, Henshaw RM, Kransdorf MJ, Shmookler BM, Malawer MM. Diagnosis of primary bone tumors with image-guided percutaneous biopsy: experience with 110 tumors. *Radiology.* 2002;223:731-737.
10. Koeller KK, Sandberg GD. Cerebral intraventricular neoplasms: radiologic-pathologic correlation. *RadioGraphics.* 2002;22:1473-1505.
11. Levy AD, Murakata LA, Abbott RM, Rohrmann CA. Benign tumors and tumor-like lesions of the gallbladder and extrahepatic bile ducts: radiologic-pathologic correlation. *RadioGraphics.* 2002;22:382-413.
12. Levy AD, Rohrmann CA, Murakata LA, Lonergan GJ. Caroli disease: radiologic spectrum with pathologic correlation. *Am J Roentgenol.* 2002;179:1053-1057.
13. Lonergan GJ, Schwab CM, Suarez ES, Carlson CL. Neuroblastoma, ganglioneuroblastoma, and ganglioneuroma: radiologic-pathologic correlation. *RadioGraphics.* 2002;22:911-934.
14. Murphey MD, McRae GA, Fanburg-Smith JC, Temple HT, Levine AM, Aboulafia AJ. Imaging of soft tissue myxoma with emphasis on CT and MRI and comparison of radiologic and pathologic findings. *Radiology.* 2002;225:215-224.
15. Nomikos GC, Murphey MD, Kransdorf MJ, Bancroft LW, Peterson JJ. Primary bone tumors of the lower extremities. *Radiol Clin North Am.* 2002;40:971-990.
16. Pickhardt PJ, Levy AD, Rohrmann CA, Kende AI. Primary neoplasms of the appendix manifesting as acute appendicitis: CT findings with pathologic correlation. *Radiology.* 2002;224:775-781.
17. Pickhardt PJ, Levy AD, Abbondanzo SM, Rohrmann CA, Kende AI. Non-Hodgkin lymphoma of the appendix: clinical and CT findings with pathologic correlation. *Am J Roentgenol.* 2002;178:1123-1127.
18. Woodward PJ, Sohaey R, O'Donoghue MJ, Green DE. Tumors and tumorlike lesions of the testis: radiologic-pathologic correlation. *RadioGraphics.* 2002;22:215-240.

Special Reports

Koeller KK, Anthony J, Wilson, MD: Armed Forces Institute of Pathology 2002-2003 Distinguished Scientist. *Radiology*. 2002;224:8.

Editorials

Harcke HT, Bifano JA, Koeller KK. In Response to the Pentagon Attack, 11 September 2001. *Radiology*. 2002;223:7-8.

Abstracts

1. Berrocal T, Arjonilla A, Lonergan GJ, Zubillaga A, Jaureguizar E, Gomez-Leon N. Contrast-enhanced voiding sonourethrography: can the urethra be adequately assessed in patients with suspected VUR? *Radiology*. 2002;225(P):668.
2. D'Alessandro MP, Galvin JR, Choi JJ. The radiologist and the Internet: continuous learning while you work. *Radiology*. 2002;225(P):764.
3. Peterson JJ, Bancroft LW, Kransdorf MJ, Murphey MD, Fox MG, Moulton SJ. Imaging of cystic adventitial disease of the peripheral arteries. *Radiology*. 2002;225(P):735.
4. Smith SE, Murphey MD, Koeller KK. Ameloblastoma of the jaw: characteristics with pathologic correlation. *Radiology*. 2002;225(P):727.
5. Steiner RM, Frazier AA, McComb BL, Agrons GA. Multimodality imaging of the atrioventricular groove: an important landmark for understanding cardiac anatomy and pathology. *Radiology*. 2002;225(P):704.

Published Biomedical Illustration**Frazier AA:**

Koeller KK, Galvin JR, Levy AD, Lonergan GL, Murphey MD, Woodward PJ. Fungal infections: from head to toe. *Radiology*. 2002;225(P):48.

Books and Book Chapters

1. Koeller KK, Levy AD, Woodward PJ, Lonergan GJ, Galvin JR, Murphey MD, eds. *Radiologic Pathology 2002-2003*. Washington, DC: American Registry of Pathology; 2002.
2. Levy AD. Malignant liver tumors. In: Ros PR, ed. *Clinics in Liver Disease: Hepatic Imaging and Intervention*. March 2002. 6(1):147-164.
3. Levy AD, Rohrmann CA. Gastrointestinal motility disorders. In: Taveras JM, Ferrucci JT, eds. *Radiology: Diagnosis, Imaging, and Intervention*. Philadelphia, Pa: Lippincott-Raven; 2002.

GOALS

1. Expand our leadership role in radiologic-pathologic education and research by capitalizing on a technologically enhanced archive, which will provide the basis for lifelong education for the global medical community.
2. Optimize morale through attention to personnel issues.
3. Expand and restructure educational opportunities.
4. Implement technological innovations to enhance mission.
5. Maximize logistical resources to support requirements.



William Inskeep II, COL, VC, USA
Chair
Date of Appointment— 24 December 1996



DEPARTMENT OF VETERINARY PATHOLOGY

MISSION

The Department of Veterinary Pathology provides diagnostic and consultation services, and educational and research programs in veterinary, comparative, and toxicologic pathology, and laboratory animal medicine to ensure the medical readiness of DoD and to advance federal and civilian medicine. The department:

- Conducts the only veterinary pathology residency program within DoD.
- Conducts diagnostic pathology services for military animals worldwide.
- Oversees the Institute’s Animal Care and Use program and maintains AAALAC accreditation.
- Serves as the WHO Collaborating Center for Worldwide Reference on Comparative Oncology.
- Serves as an international center for veterinary pathology training.
- Supports the DoD and the AFIP by conducting medical research in collaboration with military, other federal, and civilian agencies.
- Operates the Institute’s laboratory animal facility.
- Provides comprehensive support to AFIP and WRAMC investigators using laboratory animal models of human disease.
- Provides animal research consultation services to the Director, the Institute Animal Care and Use Committee (IACUC), and investigators.
- Conducts education courses in pathology and laboratory animal science.

ORGANIZATION

The department is organized into 3 divisions and the Office of the Chair:

1. Division of Laboratory Animal Medicine – James T. Sheets, MAJ, VC, USA, Chief
2. Division of Research and Education – Mark G. Mense, LTC, VC, USA, Chief
3. Division of Consultation and Training – Dale G. Dunn, LTC(P), VC, USA, Chief

OFFICE OF THE CHAIR

STAFF

Medical:

- William Inskeep II, COL, VC, USA, Chair
- Thomas P. Lipscomb, DVM, Consultant Pathologist, ARP
- F. Yvonne Schulman, DVM, Consultant Pathologist, ARP
- (D) Jagannatha V. Mysore, Veterinary Pathologist, ARP

Scientific:

- Henry J. Jenkins, Electron Microscopist and Laboratory Technician

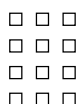
Administrative:

- (D) Harry W. Nash, SFC, USA, NCOIC
- Martha A. Koerner, Secretary

- (A) Michael S. Hahn, Administrator/Editor, Registry of Toxicologic Pathology for Animals, ARP
- (D) Megan M. Sullivan, Administrator/Editor, Registry of Toxicologic Pathology for Animals, ARP
- Teresa G. Cannady, Administrative Officer
- (A) Angela Y. King, SGT, USA, Operations NCO



James T. Sheets, MAJ, VC, USA
Chief
Date of Appointment – 15 August 2002



DIVISION OF LABORATORY ANIMAL MEDICINE

STAFF

Medical:

- (D) Rebecca A. Wiltshire, LTC, VC, USA, Chief
- (A) James T. Sheets, MAJ, VC, USA, Chief

Scientific:

- Monique E. Barnes, SGT, USA, NCOIC
- Steven P. McNair, Surgery Technician
- (A) (D) Rodolfo E. Marengo, SGT, USA, NCOIC
- Tia Coleman, SPC, USA, Animal Care Specialist
- Manuel F. Taveras, SPC, USA, Animal Care Specialist
- (A) Omar A. Feliciano, PFC, Animal Care Specialist
- (A) Aaron J. Jackson, PFC, Animal Care Specialist
- (A) Greeley A. Stones, Animal Caretaker Supervisor
- Michael B. Cannon, Animal Caretaker Leader
- Jerome D. Escoe, Animal Caretaker
- Rashaan O. Jackson, Animal Caretaker
- James P. Pollock, Animal Caretaker
- (D) Stephen M. Cameron, SPC, USA



DIVISION OF RESEARCH AND EDUCATION

STAFF

Medical:

- (D) Denzil F. Frost, LTC, VC, USA, Chief, Research Branch

- (A) Mark G. Mense, LTC, VC, USA, Chief, Division of Research and Education
- (A) Duane A. Belote, LTC, VC, USA, Chief, Research Branch
- Thelda J. Atkin, MAJ, VC, USA, Chief, Education Branch
- Sophie Bouchiha-Olson, DVM, Education Research Pathologist
- (A) Tabitha C. Viner, DVM, Callender-Binford Fellow

Residents:

- (A) Derron A. Alves, CPT, VC, USA (1st year)
- (A) Jennifer L. Chapman, CPT, VC, USA (1st year)
- (A) Bridget S. Lewis, CPT, VC, USA (1st year)
- (A) Gloria A. Marselas, MAJ, VC, USA (1st year)
- (A) Thomas J. Steinbach, MAJ, VC, USA (1st year)
- (A) Kimberly A. Whitten, MAJ, VC, USA (1st year)



Dale G. Dunn, LTC(P), VC, USA
Chief
Date of Appointment – 1 October 2000

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DIVISION OF CONSULTATION AND TRAINING

STAFF

Medical:

- Dale G. Dunn, LTC(P), VC, USA, Chief
- (D) Brett H. Saladino, MAJ, VC, USA, Chief, Consultation Branch
- Sarah L. Hale, MAJ, VC, USA, Chief, Training Branch
- Michelle L. Fleetwood, DVM, Chief, Consultation Branch

Residents:

- (D) Randall L. Rietcheck, MAJ, VC, USA
- Brad A. Blankenship, CPT, VC, USA (3rd year)
- Mary F. Cooper, MAJ, VC, USA (3rd year)
- Joseph Novak Jr., MAJ, VC, USA (3rd year)
- Jerry R. Cowart, MAJ, VC, USA (2nd year)
- Kathleen A. Ryan, MAJ, VC, USA (2nd year)
- Greg A. Saturday, MAJ, VC, USA (2nd year)

Administrative:

Katherine M. Randall, Secretary

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	966
No Final Report (NFR)	602
Federal	173
Civilian	484
Total	2,192

Autopsies Conducted:

Division of Laboratory Animal Medicine, AFIP	42
National Zoological Park (NZP)	117
Maryland State Diagnostic Lab (MDX)	72
Other (marine mammals/military working dogs) ..	5
Total	236

The department received over 2,100 cases for consultation and/or submission to the Registry of Veterinary Pathology and the Registry of Toxicologic Pathology for Animals for educational and research purposes. Over 50% of cases reported represent complete autopsies in which wet tissue was received. The high percentage of military working dog necropsies worldwide in 2002 (over 99%) maintained a steady demand for histopathological assessment of tissues (>8,500).

Of the 2,192 completed cases, 1,393 special stains were required; 1,126 immunohistochemical stains were obtained from the AFIP laboratory and 1,246 were performed by department personnel in collaboration with the Walter Reed Army Institute of Research (WRAIR) Veterinary Immunohistochemical Laboratory; 21 molecular biological techniques were performed and 148 electron microscopy cases were completed. We examined radiographs from 89 cases. In addition to the above histopathological cases, 148 transmission electron microscopy and 35 scanning electron microscopy cases resulted in 3,576 EM prints, many of which were used in publications. We performed 166 cytological case examinations, which included tissue aspirates and bone marrow impressions. Thirty-two cases received a quality diagnosis code of 4, representing a major disagreement with the contributor's diagnosis. Special gross examinations were performed on 3 marine mammals and 15 military working dogs. Department staff and residents conducted 249 autopsies. Histopathology is performed on almost all cases. NZP and MDX cases are not included with AFIP consultation cases, since they are assessed by residents and reviewed by NZP or MDX staff pathologists. The number of cases submitted to the Registry of Veterinary Pathology is considered adequate.

Impact:

Our most significant program is the DoD Veterinary Pathology Residency. We train and prepare all veterinary pathologists for ACVP Board Certification, specialists necessary for DoD biomedical research laboratories and clinical investigation directorates. The operation of the laboratory animal facility provides critical animal models of human disease for both the AFIP and the WRAMC Department of Clinical Investigation (DCI).

- The department provides diagnostic pathology for military working animals and federal animal programs (Customs, Border Patrol, and Secret Service).
- The WHO Collaborating Center is conducting the first update in 25 years of the *Histologic Classification of Tumors in Domestic Animals*. These fascicles are used worldwide in diagnostic pathology and research with domestic animals.
- The Registry of Toxicologic Pathology for Animals publishes the *Standardized System of Nomenclature for Diagnostic Criteria*. These guides are critical to the standardization of diagnostic terminology for veterinary toxicologic pathologists in drug safety assessment.
- The department is evaluating military working dogs deployed during Operation Desert Shield/Storm as the only biological sentinel system within the theater, as an indicator of human disease.
- Annual courses provide essential training for military medical research specialists and are core components of the DoD Residency Program. These courses are unique to the profession, as no university conducts similar courses.
- We continued Toxicologic Histopathology Web Conference, the first-ever Web-based course for the Institute and the first Web-based histopathology conference for the profession of veterinary pathology.
- We conducted a 25-week histopathology slide mail-out conference with 135 participating institutes in 16 countries. This conference is in its 50th year and no similar conference exists for the profession of veterinary pathology. This conference is world-renowned as the AFIP Slides!
- We contributed significantly to the discovery that a novel herpesvirus is implicated as the cause of a common genital cancer of sea lions and have continued case assessment and disease surveillance this year.
- We provided Laboratory Animal Medicine support for the State Department's Cooperative Threat Reduction Program (Nonproliferation/Science Cooperation Program) and DoD's Office of the Secretary of Defense, Strategy and Threat Reduction in the Former Soviet Union.
- The Laboratory Animal Medicine Division supports unique capabilities, including a C-arm fluoroscope, animal cardiac catheterization, and Biosafety Level 3 animal research.
- We implemented the AFIP Online Veterinary Systemic Pathology, a digital simulation of microscopic examination of 675 diseases with case manuscripts as searchable references, the first resource of this kind and magnitude for the profession of veterinary pathology.

Deployments:

1. January 2002, Ft. Sam Houston, Tex. Army Veterinary Corps Consultants Meeting. W Inskeep.
2. January 2002, Plum Island, NY. Foreign Animal Disease Diagnosticians Course. W Inskeep.
3. March 2002, Ft. Sam Houston, Tex. Veterinary Corps Junior Officer Development Course. W Inskeep.
4. March 2002, San Antonio, Tex. US Army Military Medical Seminar. W Inskeep.
5. April 2002, Washington, DC. Veterinary Corps Research and Development Short Course. W Inskeep, DG Dunn, DF Frost, BH Saladino, TJ Atkin.
6. April 2002, Ft. Sam Houston, Tex. Council of Army Veterinarians Meeting. W Inskeep.
7. April 2002, Heidelberg, Germany. USA Europe Veterinary Medical Conference. DG Dunn.
8. April 2002, Landstuhl, Germany. USA Veterinary Laboratory Europe, Pathology for Clinical Veterinarians Course. DG Dunn.
9. June 2002, Ft. McNair, Washington, DC. National Defense College, Congressional Agroterrorism Exercise. W Inskeep.
10. October 2002, Emmitsburg, Md. USDA-DoD-FEMA 6th Annual Emergency Preparedness Satellite Seminar. W Inskeep.
11. November 2002, Ft. Detrick, Md. Army Veterinary Pathology Symposium. All department veterinary pathologists.

Quality Assurance:

1. The chair or senior staff members review 10% of the monthly consultation cases.
2. Board-certified staff members sign all case letters.
3. Second review: Chief, Division of Consultation and Training, Senior Surgical Pathologist, or Chair, Department of Veterinary Pathology.
4. Chair or senior staff members attend the semiannual AFIP Quality Assurance Committee Review Meeting for this department.
5. The Division of Laboratory Animal Medicine provides QA in procurement and housing of research animals, in accordance with Association for the Assessment and Accreditation of Laboratory Animal Care, International standards.
6. Two department personnel are members of the AFIP Institute Animal Care and Use Committee, an essential quality oversight element of the command.
7. Two department personnel are members of the AFIP Research Committee, an essential quality oversight element of the command.
8. One department member sits on the AFIP Safety and Biosafety Committees, essential quality oversight elements of the command.

EDUCATION

Presentations and Seminars: In 2002, department staff made 26 presentations at various seminars, symposia, conferences, courses, and workshops, representing 1,260 man-hours of instruction. Dates and venues for these presentations are listed at the end of this report. The department also conducted daily, weekly, and quarterly conferences and workshops.

Courses: Members of the department conducted 3 AFIP courses. Courses sponsored by the department and attended by staff members and DoD Veterinary Pathology Program residents include:

1. AFIP/C.L. Davis Foundation Gross Morbid Anatomy of Domestic Animals
2. AFIP/C.L. Davis Foundation Descriptive Veterinary Pathology (two courses, US and Europe)
3. Personnel from Army research medical laboratories and other government and civilian .. agencies attend many of our formal training sessions throughout the academic year.

Trainees:

1. 14 residents, 2,072 trainee-days
2. 2 Callender-Binford Fellows, 378 days
3. 14 visiting veterinary residents studying for ACVP Exam, 104 days
4. 14 visiting veterinary students, 95 days

Residency Program: The Division of Consultation and Training operates the DoD's only residency in veterinary pathology. In 2002, the 3-year training program had 8-14 residents preparing for the ACVP's certifying examination. Our program is recognized as one of the most effective in the country. In the last 15 years, 46 AFIP residents have taken the ACVP examination and 37 (80%) have achieved board certification. In 2002, one AFIP resident took the certifying examination for the first time and passed all 4 parts. The national pass rate for first-time applicants was 32%. Our residency program is based on diagnostic service cases, formal training sessions given throughout the academic year, and 3 or 4 annual courses.

The cornerstone of our formal training program is the Systemic Pathology Seminar, organized so that diseases of all organ systems of major animal species are covered over the course of the 3-year residency. Another integral component of the program is the Wednesday Slide Conference. We hold 25 conferences during an academic year, each consisting of 4 unknown cases. Staff and guest moderators call on residents to describe the lesions and discuss differential diagnosis and pathogenesis. In addition, the Wednesday Slide Conference is a mail-out histopathology seminar for 135 institutes in 16 countries. Residents serve as prosectors for the Division of Laboratory Animal Medicine of the AFIP, the NZP, and the MDX in Frederick, Md.

The residency program requires various types of case material, including those that represent infectious, toxic, neoplastic, and metabolic diseases from a wide spectrum of animal species. To this end, we obtain training material from military and federal sources as well as civilian diagnostic services. Diagnostic support for the military working animal programs is given the highest priority. Detailed histopathologic studies with extensive review by experienced staff members, frequent utilization of electron microscopy, immunohistochemistry, and molecular techniques, as well as consultations with other departments within the Institute, insure the highest quality of diagnostic work.

Educational Aids:

1. Systemic Pathology of Animals study sets, 11 body systems (3 sets), available only at AFIP.
2. Histopathology Examinations (60), available only at AFIP.
3. Gross Pathology Examinations (30), available only at AFIP.
4. Wednesday Slide Conference, 4 cases per week for 25-week training year distributed to 135 contributing institutes worldwide.
5. Wednesday Slide Conference Study Sets (27 years), available only at AFIP.
6. Wednesday Slide Conferences on the Web, including some images for the conference years 1995-96, 1996-97, 1997-98, 1998-99, 1999-00 and 2000-01; text without images for years 1994-95, 2001-02 and 2002-03.
7. Wednesday Slide Conference Cumulative Index Database on CD-ROM for years 1966-2002, includes all conference reports for years 1994-2002, with images as available on the Internet and listed above.
8. C.L. Davis Foundation study sets containing over 3,000 histology slides.
9. Normal histology and species-specific study sets (63), available only at AFIP.
10. Database of histology/gross pathology slides for the study of comparative pathology (12,000 slides).
11. Missouri Gross Pathology study sets (1,150 Kodachromes).
12. Interlibrary Loan study sets (79 titles), available within the department or from the AFIP MIS Library.
13. Wednesday Slide Conference Year 1993-94 CD-ROM, available at AFIP and through the ARP Bookstore.
14. RTPA Toxicologic Histopathology Web Slide Conference 2002 hosted 9 conference sessions, each session focused on 4 thought-provoking cases submitted by participating organizations. This online conference series provides toxicologic pathologists with a neutral, anonymous forum for exchange of ideas and information concerning toxicologic research and related issues. The conferences are open for a 3-week period, 7 days a week, 24 hours a day. Over 561 pathologists from 45 institutions worldwide participated. There are also archives of previous cases available online. This material is available free to the DoD Residency Program.
15. The Registry of Veterinary Pathology has initiated the AFIP Online Veterinary Systemic Pathology Web resource, which will include 11 organ systems arranged in bacterial, fungal, metabolic and nutritional, neoplastic, parasitic, toxic, and viral entities. This full-text, searchable, relational database will provide subscription access to sequentially linked digital histopathology images of over 675 diseases, in order to simulate examination by

the microscope. Currently, 6 organ systems, with a total of 403 cases, have been completed and are online. There are currently 26 subscribers, and we have received \$16,400 in subscription fees.

16. *WHO Histological Classification of Hematopoietic Tumors of Domestic Animals* available through the ARP Bookstore.
17. Military Working Dog Necropsy CD-ROM available through ARP Bookstore.

RESEARCH

Publications: Department staff published 7 journal articles, 1 abstract, 1 book chapter, and 2 books in 2002. A complete list of references is included at the end of this report. Dr. F. Yvonne Schulman is Senior Editor and Collaborating Center Director for the second series of the *WHO Histologic Classification of Tumors of Domestic Animals*. Two fascicles were published: *Histological Classification of Hematopoietic Tumors of Domestic Animals* and *Histological Classification of Ocular and Otic Tumors of Domestic Animals*. The *Guides to the Standardized System of Nomenclature and Diagnostic Criteria for Toxicologic Pathology* are continuing to be published, with completion of proliferative lesions in the rat and initiation of nonproliferative lesions in the rat and mouse. LTC Mark Mense oversees the production of these guides. Sean Hahn coordinates the subject matter expert groups and edits each publication.

Projects: The department is conducting/supporting numerous pathology and laboratory animal research projects focused on military readiness:

1. Indicators of Human Disease from Persian Gulf Service: A Study of Military Working Dogs Deployed in Operations Desert Shield and Desert Storm, a collaborative effort with the DoD Military Working Dog Veterinary Service, Lackland AFB, Tex.
2. Genital Tract Carcinomas of Free-Ranging Sea Lions (sea lions serve as military working animals).
3. Causes of Marine Mammal Disease (dolphins and whales serve as military working animals).
4. CD-ROM of the Necropsy of the Military Working Dog, multiuser version.

The Department had one animal use training protocol, entitled Technician/Investigator Training at the AFIP, open as of December 31, 2002.

In 2002, the divisions of Consultation and Training, and Research and Education conducted independent research and/or provided pathology support for the following ongoing intramural and extramural research projects:

1. Effects of Persian Gulf War Service on Military Working Dogs
2. FDA Interagency Research Support Agreement
3. CNS Tumors of Domestic Animals Study Set
4. Causes of Marine Mammal Disease
5. Applications of CD-ROM Technology to Training in Veterinary Pathology
6. Characterizations and Etiology of Genital Tract Carcinomas of Free-Ranging Sea Lions
7. Characterization of Gastrointestinal Stromal Tumors in Animals
8. Characterization and Etiology of Feline Fibropapillomas
9. Characterization of Seminoma in Dolphins
10. Disseminated Herpesvirus Infections in Bottlenose Dolphins
11. Feline Subependymal Giant Cell Astrocytoma
12. Infanticide in Dolphins
13. Web-Based Distance Learning in Veterinary Pathology
14. Characterization and Etiology of Camelid Fibropapillomas
15. Characterization and Pathology Associated with Calyptospora in Arapaima
16. Description and Characterization of Adnexal Carcinomas in Dogs
17. Investigation of Increased Incidence of Cancer in Beluga Whales from the St. Lawrence Estuary
18. Characterization of Herpesvirus Infection in Elephant Seals
19. Characterization of a Brain Stem Carcinoma in a Beluga Whale
20. Characterization and Biologic Behavior of Pleomorphic Mast Cell Tumors in Cats
21. The Pathogenesis of Respiratory Distress Syndrome
22. Orthopedic Research

23. Trematode-Induced Meningoencephalitis in California Sea Lions

The Division of Laboratory Animal Medicine (DLAM):

1. Provided support to 34 animal-use research protocols involving over 1,180 animals.
2. Supports the Department of Cardiovascular Pathology with basic research in a broad range of clinically important cardiovascular diseases, including arterial responses to injury, atherosclerosis, and novel therapies for arterial restenosis following stent placement.
3. Supported 770 cardiovascular surgical procedures.
4. Supports the Department of Infectious and Parasitic Diseases Pathology with studies involving methods to protect against various infectious diseases at Biosafety Level 2 and 3.
5. Collaborates with WRAMC's Department of Clinical Investigation and supported 133 surgical procedures involving experimental nephrologic, and orthopedic research areas.

Research Funds Received: The department received a total of \$854,000 in extramural funds for research-related activities, including the following:

1. FDA Interagency Research Support Agreement: \$10,000.
2. Diagnostic histopathology support of the marine mammal programs of the federal government, with an annual workload of 166 cases, approximately 95% of which were autopsies: \$50,000, National Marine Fisheries Service.
3. Persian Gulf Initiative: \$250,000.
4. Department of Education Fund for the Improvement of Post-secondary Education Grant for the continued development and implementation of the AFIP Online Systemic Veterinary Pathology: \$544,000.

OTHER ACCOMPLISHMENTS

Collaborators:***Military/Federal:***

1. US Navy, marine mammal pathology support.
2. DoD Military Working Dog Veterinary Service, Persian Gulf military dog study, and MWD morbidity/mortality studies.
3. WRAIR, immunohistochemical and molecular techniques.
4. National Marine Fisheries Service, marine mammal studies.
5. US Fish and Wildlife Service, marine mammal studies.
6. FDA, human heart valve, cardiac vessels, and cell culture studies.
7. WRAMC, Department of Clinical Investigation, clinical medical animal model research.

Civilian:

1. University of California at Davis, marine mammal studies.
2. Pathogenesis Corp., Seattle, Wash, marine mammal studies.
3. Marine Mammal Center, Sausalito, Calif, marine mammal studies.
4. University of Texas School of Public Health, Persian Gulf military dog study.
5. University of North Carolina at Wilmington, marine mammal studies.
6. Virginia Marine Science Museum, marine mammal studies.
7. C.L. Davis Foundation, education in veterinary and comparative pathology.
8. Va-Md Regional College of Veterinary Medicine, training of veterinary students.
9. NZP, Washington, DC, conduct prosector program.
10. MDX, Frederick, Md, conduct prosector program.
11. Society of Toxicologic Pathology, publish Toxicologic Pathology Guides.
12. USUHS, Persian Gulf military dog study.
13. Ohio State University, domestic animal tumor study set.
14. National Marine Fisheries Service, marine mammal studies.
15. National Ocean Service, marine mammal studies.
16. Center for Coastal Environmental Health and Biomolecular Research, Charleston, SC, marine mammal studies.
17. University of Pennsylvania School of Veterinary Medicine, marine mammal studies.

18. New Jersey Marine Mammal Stranding Center, marine mammal studies.
19. Woods Hole Oceanographic Institute and Harvard University, marine mammal studies.

In 2002, the Division of Consultation and Training provided extensive pathology support to federal marine mammal programs through a funded Memorandum of Agreement. In recent years, this involvement has led to the discovery that morbilliviruses caused the dolphin epizootics along the Atlantic coast (1987-1988) and in the Gulf of Mexico (1993-1994), and a novel gamma herpesvirus has been confirmed as a possible cause of a prevalent genital cancer of California sea lions (2000-2001). Collaboration with the Department of Cellular Pathology has resulted in development of a sensitive PCR test for morbilliviruses. Forensic evidence of infanticide in bottlenose dolphins has been found.

International:

Hebrew University, Tel Aviv, Israel. Defense Advanced Research Projects Agency (DARPA) site visit.

Interdepartmental:

1. Department of Environmental and Toxicologic Pathology, Persian Gulf military dog study.
2. Department of Cellular Pathology, marine mammal and domestic animal studies.
3. Department of Soft Tissue Pathology, gastrointestinal stromal tumors.
4. ARP, domestic animal tumor study, CD-ROM project, and Web-based education.
5. Department of Medical Education.
6. Department of Telepathology.

Honors:

1. Joint Meritorious Unit Award – All military personnel
2. Legion of Merit – DF Frost
3. Meritorious Service Medal – DA Alves, J Cowart, MG Mense, JT Sheets, KA Whitten
4. Joint Service Commendation Medal – BH Saladino, RA Wiltshire
5. Army Commendation Medal – DA Belote, JL Chapman, BS Lewis, GA Marselas, KA Ryan, GA Saturday, TJ Steinbach, DE Stoffregen, KA Whitten
6. Joint Service Achievement Medal – AY King
7. Army Achievement Medal – DE Stoffregen
8. Postgraduate Student Manuscript Competition Award – TC Viner

Committees:

Editorial Boards: *Veterinary Pathology*, MG Mense

Manuscripts Reviewed: Members of the department reviewed 5 articles for the following professional journals:

1. *Toxicologic Pathology* (1)
2. *Veterinary Pathology* (2)
3. *Journal of the American Veterinary Medical Association* (1)
4. *Journal of Aquatic Animal Health* (1)

Offices/Committee Memberships in National or International Societies:

1. Member, Society of Toxicologic Pathologists, Nomenclature and Diagnostic Criteria Steering Committee, W Inskeep
2. Member, American Veterinary Medical Association, Council on Research, W Inskeep
3. Member, Department of Commerce, Working Group on Unusual Marine Mammal Mortality Events, DG Dunn
4. Member, ACVP Credentialing of Candidates Committee, TP Lipscomb
5. Member, ACVP National Examination Committee, DG Dunn
6. Member, Armed Services Biomedical Research Evaluation and Management Committee, Joint Technical Working Group, RA Wiltshire, JT Sheets
7. Chair, American College of Laboratory Animal Medicine Training Program Recognition Committee, RA Wiltshire, JT Sheets
8. Member, American College of Laboratory Animal Medicine Training Program Recognition Committee, JT Sheets
9. Member, American College of Veterinary Pathologists, Training Coordinators Committee,

SL Hale

10. Member, American College of Veterinary Pathologists, Training Coordinators Committee, Mock Examination Subcommittee Chair, SL Hale
11. Member, Florida Department of Natural Resources Workshop on Manatee Mortality, DG Dunn, TP Lipscomb
12. Member, WHO Committee on the Histologic Classification of Tumors of the Renal System, W Inskeep

Faculty Appointments: USUHS, Adjunct Professor, Preventive Medicine and Biometrics Department, RA Wiltshire.

Other Appointments:

1. AVMA Liaison Officer to ARP, W Inskeep
2. AVMA Liaison Officer to National Association for Biomedical Research, W Inskeep
3. Senior Enlisted Advisor for Army Personnel, DE Harris/HW Nash
4. Alternate 1SG, DE Harris/HW Nash
5. Task Area Support Officer, DE Harris/HW Nash

New Missions and/or Missions Dropped: As a new mission, the department is developing and implementing the AFIP Online Systemic Veterinary Pathology Resource that is designed to have images of over 675 disease entities from multiple animal species. Eleven body systems will have categories of neoplastic, viral, bacterial, fungal, parasitic, toxic, metabolic and miscellaneous.

Official Trips (funding agency in parentheses):

1. January 2002, Army Veterinary Corps Consultants Meeting, San Antonio, Tex, W Inskeep (DoDVSA).
2. January 2002, Foreign Animal Disease Diagnosticians Course, Plum Island, NY, W Inskeep (USDA).
3. February 2002, 73rd Annual Meeting of the Western Veterinary Conference, Las Vegas, Nev, B Saladino (AFIP).
4. March 2002, Veterinary Corps Junior Officer Development Course, San Antonio, Tex, W Inskeep (DoDVSA).
5. March 2002, Military Veterinary Medical Short Course, San Antonio, Tex, JS Eastep, W Inskeep (MEDCOM) (DoDVSA).
6. March 2002, Foreign Animal Disease Diagnosticians Course, Plum Island, NY, W Inskeep (AFIP).
7. March 2002, 90th Annual Meeting of the US/Canadian Academy of Pathology, Atlanta, Ga, B Saladino (AFIP).
8. March 2002, American Veterinary Medical Association, Council on Research, Schaumburg, Ill, W Inskeep (AVMA).
9. April 2002, Annual Pathology for Clinical Veterinarians Course, Kaiserslautern, Germany, DG Dunn (MEDCOM).
10. April 2002, 2002 European Veterinary Medical Conference, Heidelberg, Germany, DG Dunn (USAREUR).
11. April 2002, Veterinary Corps Research and Development Short Course, Washington, DC, W Inskeep, DG Dunn, DF Frost, BH Saladino, TJ Atkin.
12. April 2002, Council of Army Veterinarians Meeting, San Antonio Tex, W Inskeep (DoDVSA).
13. May 2002, 11th International Symposium on Cholinergic Mechanisms, St. Moritz, Switzerland, SL Hale (MEDCOM).
14. May 2002, Baylor College Students Briefing, Washington, DC, W Inskeep.
15. June 2002, Society of Toxicologic Pathologists Annual Meeting, Denver, Colo, W Inskeep (AFIP).
16. June 2002, AFIP Descriptive Veterinary Pathology Course, Washington, DC, TP Lipscomb, FY Schulman, DG Dunn, B Saladino, DF Frost, SL Hale.
17. August 2002, Foreign Animal Disease Diagnosticians Course, Plum Island, NY, W Inskeep (USDA).
18. September 2002, Army Veterinary Corps Consultants Meeting, Washington, DC, W Inskeep.

19. September 2002, American College of Veterinary Pathologists Certification Examination, Ames, Iowa, ML Fleetwood, S Bouchiha, J Mysore (ARP).
20. September 2002, American College of Veterinary Pathologists Certification Examination, Ames, Iowa, TJ Atkin, RL Rietcheck (AFIP).
21. September 2002, American College of Veterinary Pathologists Certification Examination Committee, Ames, Iowa, DG Dunn (ACVP).
22. October 2002, Annual Meeting, American Association of Zoo Veterinarians, Milwaukee, Wis, TC Viner (ARP).
23. October 2002, USDA-DoD-FEMA 6th Annual Emergency Preparedness Satellite Seminar, Emmitsburg, Md, W Inskeep (USDA).
24. October 2002, University of Pennsylvania Pathology Seminar, Philadelphia, Pa, FY Schulman.
25. November 2002, Ft. Detrick, Md, Army Veterinary Pathology Symposium, all department veterinary pathologists.
26. November 2002, Society of Neuroscience Annual Meeting, New Orleans, La, SL Hale (AFIP).
27. November 2002, C.L. Davis Seminar, Hershey, Pa, FY Schulman (C.L. Davis).
28. November 2002, 51st National AALAS Meeting, Baltimore, Md, RA Wiltshire.
29. December 2002, American College of Veterinary Pathologists Training Coordinators Committee Meeting, New Orleans, La, W Inskeep (AFIP).
30. December 2002, 53rd Annual Meeting of the American College of Veterinary Pathologists, New Orleans, La, W Inskeep, TP Lipscomb, FY Schulman, DF Frost, SL Hale, MG Mense, DG Dunn, DA Belote, S Bouchiha (AFIP/ARP).

Continuing Education: Department staff and residents attended the following training courses in 2002 (funding included in parentheses):

1. Foreign Animal Disease Diagnosticians Course, Plum Island, NY (AFIP).
2. Annual Meeting of the Western Veterinary Conference, Las Vegas, Nev (AFIP).
3. Annual Meeting of the US/Canadian Academy of Pathology, Atlanta, Ga (AFIP).
4. Pathology for Clinical Veterinarians Course, Landstuhl, Germany (MEDCOM).
5. US Army Europe and 7th Army Veterinary Medical Conference, Heidelberg, Germany (USAREUR).
6. AFIP Descriptive Veterinary Pathology Course, Washington, DC.
7. USDA-DoD-FEMA 6th Annual Emergency Preparedness Satellite Seminar, Emmitsburg, Md (USDA).
8. University of Pennsylvania Pathology Seminar, Philadelphia, Pa.
9. Society of Neuroscience Annual Meeting, New Orleans, La (AFIP).
10. C.L. Davis Seminar, Hershey, Pa (C.L. Davis).
11. C.L. Davis Seminar, Parsippany, NJ (ARP)
12. 51st National AALAS Meeting, Baltimore, Md.
13. 53rd Annual Meeting of the American College of Veterinary Pathologists, New Orleans, La (AFIP).

Public Affairs Reports:

1. *Savannah Morning News* on the Web. Interview with DG Dunn on marine mammal strandings, March 2002.
2. *The AFIP Letter*. Interview with TP Lipscomb on receiving the Harold Casey Teaching Award, April 2002.
3. *The AFIP Letter*. Report of department members' activities at annual meeting of the ACVP, April 2002.

Exhibits: The department's Registry of Veterinary Pathology and Registry for Toxicologic Pathology for Animals, and DoD Veterinary Pathology Residency Program exhibit was displayed at the annual meetings of the Society of Toxicologic Pathologists, the Society of Toxicologists, and the American College of Veterinary Pathologists.

Registries: The registries of Veterinary Pathology and Toxicologic Pathology for Animals engaged in the following activities in 2002:

1. Continued publication of the *Guides to the Standardized System of Nomenclature and Diagnostic Criteria for Toxicologic Pathology*, including work on drafts for nonproliferative

- lesions in the rat (2) and mouse (4). Subscriptions increased to 220 in 2002.
2. Participated in international conferences that defined the preferred terminology for entry of proliferative lesions of rats and mice into the North American Control Animal Database.
 3. Hosted regular quarterly membership panels and diagnostic consultation meetings.
 4. Hosted educational exhibit booths at the annual meetings of the American College of Veterinary Pathologists, the Society of Toxicology, and the Society of Toxicologic Pathology.
 5. Offered 9 conferences via the RTPA Toxicologic Histopathology Web Conference series, which is the first Web conference organized within the AFIP and continues to be the most successful Institute Web conference, registering 45 organizations with over 560 participants from throughout the world.
 6. Initiated the AFIP Online Veterinary Systemic Pathology Web resource, which will include 11 organ systems arranged in bacterial, fungal, metabolic and nutritional, neoplastic, parasitic, toxic, and viral entities. This full-text, searchable, relational database will provide subscription access to sequentially linked digital histopathology images of over 675 diseases, in order to simulate microscopic examination. Currently, 6 organ systems, with a total of 403 cases, have been completed and are online. There are currently 26 subscribers who have paid \$16,400 in subscription fees.

PRESENTATIONS

1. January 2002: San Antonio, Tex, Army Veterinary Corps Consultants Meeting, "Status of veterinary pathology specialty," W Inskeep.
2. March 2002: San Antonio, Tex, Veterinary Corps Junior Officer Development Course, "Opportunities in veterinary pathology," W Inskeep.
3. March 2002: San Antonio, Tex, Veterinary Corps Junior Officer Development Course, "Importance of a necropsy and proper submission of pathology samples," W Inskeep.
4. March 2002: Washington, DC, Texas A&M University Students Briefing, "Opportunities in military veterinary pathology," W Inskeep.
5. April 2002: San Antonio, Tex, Council of Army Veterinarians Meeting, "Update on veterinary pathology in DoD," W Inskeep.
6. April 2002: Kaiserslautern, Germany, Annual Pathology for Clinical Veterinarians Course, "Necropsy and cytology techniques," DG Dunn.
7. April 2002: Heidelberg, Germany, 2002 European Veterinary Medical Conference, "Opportunities in military veterinary pathology," DG Dunn.
8. April 2002: Washington, DC, Veterinary Corps Research and Development Short Course, "Opportunities in veterinary pathology," W Inskeep.
9. May 2002: St. Moritz, Switzerland, 11th International Symposium on Cholinergic Mechanisms, "EEG evaluation of huperzine A, a reversible cholinesterase inhibitor," SL Hale.
10. May 2002: Washington, DC, Baylor College Students Briefing, "Opportunities in military veterinary medicine," W Inskeep.
11. June 2002: Denver, Colo, Society of Toxicologic Pathologists Annual Meeting, "Web-based systemic veterinary pathology resource," W Inskeep.
12. June 2002: Washington, DC, AFIP Descriptive Veterinary Pathology Course, "Histologic case descriptions," TP Lipscomb.
13. June 2002: Washington, DC, AFIP Descriptive Veterinary Pathology Course, "Histologic case descriptions," FY Schulman.
14. June 2002: Washington, DC, AFIP Descriptive Veterinary Pathology Course, "Histologic case descriptions," DG Dunn, SL Hale, DF Frost, B Saladino.
15. August 2002: Plum Island, NY, Foreign Animal Disease Diagnosticians Course, "Military interests in foreign animal diseases," W Inskeep.
16. September 2002: Washington, DC, Army Veterinary Corps Consultants Meeting, "Status of veterinary pathology specialty," W Inskeep.
17. October 2002: Milwaukee, Wis, American Association of Zoological Veterinarians Annual Conference, "Lysosomal storage disease in two American flamingos (*Phoenicopterus ruber*)," TC Viner.
18. October 2002: San Antonio, Tex, Annual Meeting, American Association of Laboratory Animal Science, "Oversight of Department of Defense funded animal research in the

former Soviet Union," RA Wiltshire.

19. November 2002: Ft. Detrick, Md, Army Veterinary Pathology Symposium, "Update and pending changes for veterinary pathology specialty," W Inskeep.
20. November 2002: Ft. Detrick, Md, Army Veterinary Pathology Symposium, "AFIP Department of Veterinary Pathology briefing," W Inskeep.
21. November 2002: Ft. Detrick, Md, US Army Laboratory Animal Medicine Residency Program Seminar Series, "Rat bacterial, mycotic, parasitic, and mycoplasmal diseases," JT Sheets.
22. December 2002: New Orleans, La, American College of Veterinary Pathologists Training Coordinators Committee Meeting, "Web-based systemic veterinary pathology resource," W Inskeep.
23. December 2002: New Orleans, La, American College of Veterinary Pathologists Annual Meeting President's Reception, "Recognition of COL (Ret) F. M. Garner," W Inskeep.
24. December 2002: Washington, DC, AFIP Professional Staff Conference, "Chondroblastic osteosarcoma and Paget's disease in a dog," MF Cooper.
25. December 2002: Washington, DC, AFIP Professional Staff Conference, "A comparative study of GIST in four animal species," J Novak.
26. December 2002: Washington, DC, AFIP Professional Staff Conference, "Lysosomal storage disease in two American flamingos (*Phoenicopterus ruber*) at the National Zoological Park," TC Viner.

PUBLICATIONS

Journal Articles

1. Berti R, Williams AJ, Moffet JR, Hale SL, Velarde LC, Elliott PJ, Yao C, Dave JR, Tortella FC. Quantitative real-time RT-PCR analysis of inflammatory gene expression associated with ischemia-reperfusion brain injury. *J Cereb Blood Flow Metab.* 2002;22:1068-1079.
2. Dunn DG, Barco SG, Pabst DA, McLellan WA. Evidence for infanticide in bottlenose dolphins of the western North Atlantic. *J Wildl Dis.* 2002;38:505-510.
3. Martineau D, Lemberger K, Dallaire A, Labelle P, Lipscomb TP, Michel P, Mikalian I. Cancer in wildlife, a case study: beluga from the St. Lawrence Estuary, Quebec, Canada. *Environ Health Perspect.* 2002;110:285-292.
4. Johnson TO, Schulman FY, Lipscomb TP, Yantis LD. Histopathology and biologic behavior of pleomorphic cutaneous mast cell tumors in fifteen cats. *Vet Pathol.* 2002;39:452-457.
5. Dubey JP, Eggers JS, Lipscomb TP. Intestinal coccidiosis in a spinner dolphin (*Stenella longirostris*). *J Parasitol.* 2002;88:634-637.
6. Ridgway SH, Marino L, Lipscomb TP. Description of a poorly differentiated carcinoma within the brainstem of a white whale (*Delphinapterus leucas*) from magnetic resonance images and histological analysis. *Anat Rec.* 2002;268:441-449.
7. Schulman FY, Krafft AE, Janczewski T, Reupert R, Jackson K, Garner MM. Camelid mucocutaneous fibropapillomas: clinicopathologic findings and association with papillomavirus. *Vet Pathol.* 2002;40:103-107.

Abstract

Hale SL, Ved H, Williams A, Doctor B, Tortella F. EEG evaluation of huperzine A, a reversible cholinesterase inhibitor. Division of Pathology, Walter Reed Army Institute of Research, Silver Spring, Md.

Book Chapter

Kennedy S, Lipscomb TP, Schulman FY. Immunohistochemistry of morbillivirus infections in seals, harbor porpoises, and bottlenose dolphins. In: Pfeiffer CJ. *Molecular and Cell Biology of Marine Mammals*. Melbourne, Fla; 2002.

Books

1. Valli VE, Jacobs RM, Parodi AL, Vernau W, Moore PF. *Histological Classification of Hematopoietic Tumors of Domestic Animals*. Washington, DC. F. Yvonne Schulman ed., Head, WHO Collaborating Center for Worldwide Reference on Comparative Oncology, 2002.
2. Wilcock B, Dubielzig RR, Render JA. *Histological Classification of Ocular and Otic Tumors of Domestic Animals*. Washington, DC. F. Yvonne Schulman ed., Head, WHO Collaborating Center for Worldwide Reference on Comparative Oncology, 2002.

GOALS

1. Support the mission and vision of the AFIP.
2. Support the new AFIP Business Plan.
3. Maintain a 66% first-time pass rate for graduating residents on the American College of Veterinary Pathologists and the American College of Laboratory Animal Medicine examinations.
4. Maintain efficiency of consultation service.
5. Improve efficiency of the departmental administrative case management.
6. Continue revision of *WHO Histologic Classification of Tumors of Domestic Animals*.
7. Continue production of the *Guides to the Standardized System of Nomenclature and Diagnostic Criteria for Toxicologic Pathology*.
8. Utilize Web-based technology to continue Web Toxicologic Histopathology Conference and AFIP Online Systemic Veterinary Pathology Course.
9. Obtain one additional military staff veterinary pathologist authorization.
10. Obtain one 91T authorization as necropsy and tissue trimming technician.
11. Obtain authorization for the 91K requirement to complete animal-specific immunohistochemistry and molecular biological needs.
12. Analyze the position descriptions for animal caretakers - determine best Institute support, including biocontainment.
13. Analyze conversion of caretaker to biological assistant/technician position.
14. Analyze conversion of 91T position requirement to civilian biological technician.
15. Update and upgrade or reclassify division's Consultation and Training/Research and Education Secretary position.
16. Upgrade Administrative Officer position.
17. Conduct and support training programs for enlisted soldiers and Officer Professional Development.
18. Obtain IMA position within department.
19. Obtain permanent epidemiology position and complete changes to the TDA from the 1997 Manpower Study Documents made in error.
20. Maintain Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC) accreditation.
21. Maintain or modify current Master Plan for requirements to open the South Wing as an approved facility to support Institute research needs to include Biosafety Level 3.
22. Provide regulatory requirements for total renovation of the 5th floor.
23. Obtain new animal caging as required to support AFIP research.
24. Obtain critical care surgical monitoring equipment.
25. Update AFIP Investigator Handbook procedures to include an intranet component.
26. Define and modify existing annual educational courses to effectively meet needs of the professions of veterinary pathology and laboratory animal medicine.
27. Maintain financial base for department's registries.
28. Continue to expand capabilities of the comparative pathology-oriented immunopathology and molecular biological laboratory; excel in this technology.
29. Utilize the FOXPRO/SNOMED database management system for analysis of MWD data.
30. Supervisors complete counseling and mentoring sessions at required intervals.
31. Complete the prospective portion of the Persian Gulf military working dog study, and present and publish results.
32. Support the health of a disease-free fighting force through animal sentinel studies and morbidity and mortality studies that augment the readiness of military working animals.
33. Explore possible role in the environmental and toxicologic programs of AFIP and DoD, such as the Global Emerging Infections System (GEIS).
34. Develop and expand programs for using military working dogs as environmental sentinels.
35. Ensure 100% medical readiness and required training to include APFT and CTT successful completion.
36. Support animal-model research for human disease.

37. Develop collaborative and co-investigator roles for laboratory animal and pathology staff members within the Institute.
38. Continue to develop collaborative relationships with federal and civilian agencies to leverage resources.
39. Continue collaborative role of DLAM with WRAMC DCI.

■ GROUP 5

LEGAL MEDICINE & FORENSIC SCIENCES

LEGAL MEDICINE

OFFICE OF THE ARMED FORCES
MEDICAL EXAMINER

DIVISION OF FORENSIC TOXICOLOGY

DOD DNA REGISTRY





Frank T. Flannery, COL, MC, USA
Chair
Date of Appointment — 9 October 1990



DEPARTMENT OF LEGAL MEDICINE

MISSION

The Department of Legal Medicine conducts consultation, education, and research on medicolegal, medical quality assurance, and risk management matters confronting the military, federal agencies, and civilian sectors.

STAFF

Medical:

- Frank T. Flannery, COL, MC, USA, JD
- Richard L. Granville, MD, JD
- William J. Oetgen, MD, MBA
- Susan Freeburn, Nurse Consultant, Risk Manager

Legal:

- Alan Cash, RN, JD
- Jill E. Thach, JD
- Phyllis K. Oetgen, MSW, JD

Administrative:

- (A) Kevin Slaton, TSgt, USAF
- Virginia R. Hunt, Legal Assistant
- Anne Schroeder, Secretary
- Herman Furlow, Administrative Assistant
- Daniel Wheatley, MS, Statistics Specialist
- (D) Karen Hough, Secretary
- (A) Marian Rodriguez, Administrative Assistant

QUALITY MANAGEMENT/RISK MANAGEMENT CONSULTATION

Cases	Completed
Military	348
Army (130)	
Navy (153)	
Air Force (65)	
Federal	232
DOJ (BOP) (229)	
DHHS (IG) (2)	
Nuclear Regulatory Commission (1)	
Interdepartmental.....	6
Total	586

1. The Department of Legal Medicine is active in medical, legal, and credential consultation

for the DoD and other federal agencies. The department has actively participated in a number of senior-level DoD committees related to quality improvement and risk management. A primary focus of the department has been an active involvement with the DoD Risk Management Committee, chaired by the Office of the Assistant Secretary of Defense for Health Affairs (OASD (HA)). Medical malpractice data from the Department of the Treasury have been reported to that committee to enable DoD to monitor the number of paid medical malpractice cases within the DoD. Our department participated in the TRICARE Clinical Quality Forum, and in 2002 wrote the chapter on DoD medical malpractice for the DoD Annual Quality Management Report to Congress. The department participated in the Patient Safety Working Group to establish the Patient Safety Center at the AFIP as an integral component of the Patient Safety program of DoD. Within the Patient Safety Center, a Patient Safety Registry of medical errors has been created to receive error reports from all medical treatment facilities within the Military Health System. Finally, the Department has used its expertise in consultation to assist in the development of the DoD's Centralized Credentials Quality Assurance System. The Risk Management, Disability, and Adverse Actions modules of this large database, as well as the ad hoc and standard reporting features, were largely influenced by department staff in 2002.

2. The department is actively involved with the Keystone Peer Review Organization (KePro). Paid medical malpractice cases that meet the standard of care at the offices of the respective Surgeons General have been reviewed by KePro as an external entity. Our department has an important role in insuring the completeness of these reviews so that they address the issues of standard of care and causation, and are timely. The department analyzes the KePro data and includes it in the DoD Annual Quality Improvement Report to Congress.

3. The department has important interaction with the Department of the Treasury. On a monthly basis, we receive and analyze financial reports from Treasury in order to assist OASD (HA) to trend medical malpractice cases. The reports have been modified in the past year to increase the accuracy of this data. This project is important because many of these figures are used for comparison with the private sector. Treasury data also facilitate notification to the 3 offices of the Surgeons General of newly paid medical malpractice cases, so that they can meet their statutory requirement of reporting to the National Practitioner Data Bank in a timely fashion.

4. The department is responsible for analyzing the Risk Management, Disability, and Adverse Action modules of the Centralized Credentials Quality Assurance program. In 2002, members of our department assisted the Resources Information Technology Program Office (RITPO) in developing these modules with the creation of standard reports.

5. The department maintains a sharing agreement with the Navy Recruiting Command whereby we verify the credentials and claims histories of 118 health care providers who have applied to be accessioned as active duty personnel for the Department of the Navy. The department also works through a sharing agreement with the Bureau of Prisons in the evaluation and prime source verification of the credentials of 214 newly hired health care providers for the Department of Justice.

6. Case review for other federal agencies, according to the department's mission statement through sharing agreements, has been completed in 2002. Currently, active sharing agreements include those with the Department of Health and Human Services Inspector General's Office, the Bureau of Prisons General Counsel, and the Nuclear Regulatory Commission. Our medicolegal reviews help the agencies involved to determine the standard of care, causation, and injury elements of these tort cases.

7. The department participated on the Public Health Service Quality Review Panel, reviewing malpractice claims involving the Indian Health Service and the other agencies, and is developing a sharing agreement for review of these cases.

8. To fulfill its consultation mission, the department maintains a repository of over 16,000 closed DoD medical malpractice cases. This repository has existed since 1990. In 2002, the department accessioned and catalogued 704 newly closed DoD medical malpractice cases.

Impact:

In 2002, the department's major developments centered on the establishment of the Patient Safety Center at the AFIP. The Patient Safety program underwent considerable reorganization and modification during 2002, with the AFIP retaining a central role as the Patient Safety Registry of all "close calls" and "adverse events" in DoD. Numerous reports were submitted to the registry in 2002, and many were completed for the DoD's Patient Safety Working Group. The MedTeams program, aimed at facilitating medical team training, has made considerable progress through the efforts of our department. Approximately 16 medical treatment facilities in 2002 had their emergency medicine staff trained in the MedTeams team-training program.

Additionally, a large Labor and Delivery Research project is underway with multiple military and civilian hospitals, including Madigan Army Medical Center, Beth Israel Deaconess Hospital, and Johns Hopkins University Hospital.

The MEDMARx program, with central data collection at AFIP, has continued to develop as a medication error reporting system in DoD. A multifacility module was completed in 2002, which will enable AFIP to produce DoD-wide analyses and reports of medication errors reported by all MTFs within the MHS.

In 2002, the department received a request by the Office of Emergency Response of the Department of Health and Human Services for assistance in the prime source verification of over 10,000 civilian health care providers who respond to national disasters such as the terrorist attacks of September 2001. The department has drafted a sharing agreement for approval of this project and work is expected to begin in 2003.

EDUCATION

Presentations: Department staff delivered 4 presentations in 2002. Dates and titles are listed at the end of this report.

The department continues to produce its annual risk management journal, *Legal Medicine*. By completing a quiz, physicians earn 5 category I CME credits, which are free to military and full-time federal physicians. Approximately 17,525 CME credits were awarded in 2002. Approximately half of the credits were awarded to military and federal civilian physicians.

The department has expanded its nursing journal, *Nursing Risk Management*. In 2002, we produced a hard copy edition, in addition to the Internet version that has been produced electronically since 1998. The combined issues provide 14.5 contact hours for registered nurses, free to military and full-time federal civilian nurses. In 2002, 222 military and federal civilian nurses participated in this program. The department has begun an aggressive solicitation campaign to increase the number of subscribers to this important journal.

RESEARCH

Publications: Department staff published 11 articles in professional journals in 2002. Complete bibliographical information appears at the end of this report.

Projects: The MedTeams Labor and Delivery multifacility research project, begun in 2001, continued during 2002. Multiple academic facilities in the military and private sector are involved in this project. This medical error reduction research, aimed at improving medical teamwork, targets the Labor and Delivery arena because of its high risk and high liability. Measurements of error before and after team training will be made at these facilities. This research is being performed in coordination with the Beth Israel Deaconess Hospital and the Madigan Army Medical Center. Congressional research funds for this project total \$1.8M.

OTHER ACCOMPLISHMENTS

Manuscripts Reviewed: Members of the department reviewed 10 articles in the following journals:

1. *Military Medicine*
2. *Federal Practitioner*

Faculty Appointments: Georgetown University, Clinical Assistant Professor, Department of Family Practice, FT Flannery.

New Missions: As described above, our department is assisting the Office of Emergency Response in the prime source verification of its 10,000 health care providers who respond to national disasters. This program is expected to commence in 2003.

PRESENTATIONS

1. January 2002: Washington, DC, Walter Reed Army Medical Center, "Documentation and risk management issues," A Cash.
2. March 2002: Washington, DC, TRICARE Clinical Quality Forum, "DoD malpractice data for the DoD Annual Report to Congress," R Granville.
3. May 2002: Washington, DC, DoD Risk Management Committee, "The Health Care Integrity and Protection Data Bank," R Granville.
4. October 2002: Bethesda, Md, USUHS, "Overview of medical malpractice in DoD," A Cash.

PUBLICATIONS

1. Salisbury M. Beyond rhetoric: teamwork, a real response to patient safety. *Legal Med.* 2002:7-14.
2. Kaar J. Rules of engagement for U.S. military medicine. *Legal Med.* 2002:15-19.
3. Kelly C. Operation Noble Eagle: AFIP responds to September 11th Pentagon attack. *Legal Med.* 2002:22-23.
4. Nosek R, Bourg M, Pereira. Standardizing medication error reporting using MEDMARx. *Legal Med.* 2002:24-28.
5. Hilaman B. Liability risks associated with trocar selection during laparoscopy. *Legal Med.* 2002:29-34.
6. Marks E. Obstacles to error reporting in a patient safety program. *Legal Med.* 2002:35-38.
7. Brenner Z, Johns P. Revising a health care protocol from a risk management perspective. *Nurs Risk Manag.* 2002:7-11.
8. Walters J, Buntin, B. Elder abuse. *Nurs Risk Manag.* 2002:13-19.
9. Tackett S, Birk C. The patient safety mandate: rebuilding the trust and creating a reporting system. *Nurs Risk Manag.* 2002:21-31.
10. Martin GA. Telehealth: are you at risk? *Nurs Risk Manag.* 2002:33-40.
11. Kaar JF. A compilation of legal issues facing health care professionals who provide care over the Internet. *Nurs Risk Manag.* 2002:42-46.



Craig T. Mallak, CDR, MC, USN
Armed Forces Medical Examiner
Date of Appointment – 12 June 2002



OFFICE OF THE ARMED FORCES MEDICAL EXAMINER (OAFME)

MISSION

The OAFME is primarily responsible for multidisciplinary forensic (medicolegal) investigations of unnatural or violent deaths due to known or suspected accidents, homicide, suicide, or undetermined means. In these cases, the OAFME must establish positive identity by scientific means, determine the cause and manner of death, and certify the death. This responsibility normally applies to:

- Members of the Armed Forces on active duty or on active duty for training.
- Civilians, including dependents of military members, whose deaths come under exclusive federal jurisdiction.

Deaths to be investigated include, but are not limited to:

- Unnatural or violent deaths from known or suspected accidents, homicide, suicide, or undetermined means.
- Deaths related to the occupation or employment of the deceased and deaths of individuals enrolled in the Personnel Reliability Program.
- Deaths related to vehicular, aircraft, or naval vessel accidents.
- Sudden and unexpected deaths for which the cause is not readily apparent.
- Deaths potentially related to diseases that might constitute a threat to the public health.
- Deaths occurring in an individual who is in the custody of law enforcement officials.
- When the commander of a Military Medical Treatment Facility (MMTF) where the death occurred or the decedent's commander in the grade of O-4 or higher notifies the OAFME that a medicolegal investigation on a military member is necessary for reasons of national security or for the protection of the military community.

The department reviews cases in consultation and conducts on-site medicolegal investigations, providing consultative and diagnostic services to the DoD and other federal and nonfederal agencies. When requested and approved by higher authority, these services may be extended to foreign governments.

ORGANIZATION

The Armed Forces Medical Examiner (AFME) performs the executive functions of the OAFME, providing administrative and fiscal functions, as well as oversight of the 6 OAFME divisions, and regional and associate medical examiner functions and responsibilities under the Armed Forces Medical Examiner System (AFMES).

1. Medicolegal Investigations and Operations (OPS) – Elizabeth Rouse, Maj, USAF, MC, FS. This division is responsible for day-to-day OAFME operations to support worldwide forensic consultations and on-site investigations, including aircraft accidents.
2. Education and Research – Scott Kornman, Maj, USAF, MC. This division coordinates and facilitates all departmental education and research efforts, including fellowship and residency programs sponsored by military and civilian educational institutions.
3. Special Investigations – William C. Rodriguez III, PhD. This division is responsible for anthropological investigation and consultation for the OAFME. It also maintains the Trace

Materials Analysis Laboratory, which aids the OAFME in identifying materials associated with medicolegal investigations.

4. Forensic Toxicology – Aaron Jacobs, COL, MS, USA. This division provides toxicology laboratory testing and consultation for OAFME investigations and for the DoD Drug-Testing Quality Assurance Program. It also provides education and research for this discipline.

5. DoD DNA Registry – Brion C. Smith, Col, DC, USA. This division encompasses the Armed Forces DNA Identification Laboratory (AFDIL), which is responsible for DNA-based identification of human remains for the OAFME, and for performing consultation, education, and research in the area of forensic DNA analyses. The division also maintains the Armed Forces Repository of Specimen Samples for the Identification of Remains for the DoD.

6. Mortality Surveillance Division – Lisa Pearse, MAJ, MC, USA. The goals of the DoD Mortality Surveillance Division are to perform active surveillance to monitor all active duty deaths, to quickly identify those deaths that could be the result of an infectious etiology, and to take timely and appropriate steps to identify the agent or agents responsible. The resulting registry allows for analysis and reporting of medical cause-specific mortality data and trends.

STAFF

Medical:

- (A) Craig T. Mallak, CDR, MC, USN, Armed Forces Medical Examiner
- (D) AbuBakr A. Marzouk, Col, USAF, MC, FS, Interim Armed Forces Medical Examiner
- (A) Elizabeth Rouse, Maj, USAF, MC, FS, Assistant Medical Examiner
Brion C. Smith, COL, DC, USA, Chief Deputy Medical Examiner, DoD DNA Registry
- (D) Andrew Baker, Maj, USAF, MC, Deputy Medical Examiner, Education and Research
- (A) James L. Caruso, CDR, USN, Fellow
- (D) Bruce Ensign, Maj, USAF, MC, FS, Associate Medical Examiner
- (A) Jerry J. Hodge, CDR, USN, Fellow
Scott E. Kornman, Maj, USAF, MC, Associate Medical Examiner
- Stephen L. Robinson, CDR, MC, USN, Regional Medical Examiner (Okinawa, Japan)
- Kathleen Ingwersen, LTC, MC, USA, Regional Medical Examiner (Landstuhl, Germany)
- James W. Green, CAPT, MC, USN, Regional Medical Examiner (San Diego, Calif)
- Eric Berg, LTC, MC, USA, Regional Medical Examiner (Fort Campbell, Ky)
- (A) James Feig, Maj, USAF, MC, Regional Medical Examiner (San Antonio, Tex)
- Douglas Knittel, CDR, MC, USN, Regional Medical Examiner (Portsmouth, Va)

Scientific:

William C. Rodriguez III, PhD, Chief Deputy Medical Examiner, Special Investigations,
Forensic Anthropology, Distinguished Scientist

Administrative:

- (A) Mark Vojtecky, Lt Col, USAF, Administrator
- (A) Bobbie Turner, LTJG, USN, Administrative Officer
- (D) Betty L. Streams, BS, Administrative Officer
Robert Veasey, Operational Administrator/Investigator
- Russell Strasser, Special Agent, OSI
- (D) Jean T. Lawson, Secretary
Joyce White, Secretary
- Carolyn Allen, BS, Administrative Assistant, ARP
- (D) Paul A. Kerr, PHC, USN, Chief Forensic Photographer
- (D) Sean Doyle, PHC, USN, Photographer
- (A) Brenda G. Corrao, HM2, USN, Forensic Photographer
- (D) Louis Briscese, TSgt, USAF, Photographer
Michael Godwin, TSgt, USAF, Administrative Assistant
- (A) Tiffany D. Page, SSgt, USAF, Forensic Photographer
- (D) Christopher L. Williams, PH3, USN, Photographer

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	276
Federal	39
Civilian 105	
Total	420

The OAFME accessioned 614 cases during 2002. The majority of the forensic pathology consultations were submitted by or in conjunction with the military services investigative agencies (NCIS, CID, or OSI) as part of medicolegal investigations. The remaining contributors were military pathologists and other federal agencies such as the Department of Justice, the FBI, and the Department of Labor.

Regional and Associate Medical Examiners:

AFME appointed (with the concurrence of the service surgeons general) Regional Medical Examiners (RME) and Associate Medical Examiners (AME), who significantly expand our geographic scope. The RMEs and AMEs conducted 174 medicolegal investigations in 2002, under the guidance of the OAFME, which directly resulted in immense savings in travel costs and man-hours. The RMEs and AMEs are located at Lackland AFB, Brook Army Medical Center, and Ft Hood, Tex; Ft Campbell, Ky; Ft Rucker, Ala; NMC Portsmouth, Va; NMC San Diego, Calif; Tripler ARMC, Hawaii; Landstuhl ARMC, Germany; and Camp Lester, Okinawa, Japan.

Special Investigation Division of OAFME:

The Special Investigation Division provides consultations to all military investigative agencies, as well as numerous federal agencies including the FBI, ATF, US Secret Service, and the CIA. The division conducts casework involved with overseas terrorist bombings and identification of combat detainees. The OAFME Ballistic Research Range plays a major role in testing and development of new-generation body armor and research related to battlefield ballistic injuries. Utilization of the Morgue and Laboratory facilities under the Special Investigation Division has increased, which has led to acquisition of significant new equipment for the examination of human remains and associated trace materials. The forensic skeletal teaching collections have expanded and contain many unique specimens.

Impact:

The OAFME provides outstanding service and support of DoD and other federal agencies. During 2002, the autopsy examinations provided on missions and written consultations were invaluable in promoting aviation safety and the administration of justice. Noteworthy missions in 2002 included:

- Ongoing work on the Pentagon terrorist attack, including participation in the one-year anniversary memorial events.
- Investigation of a Special Forces MC-130 mishap in Puerto Rico.
- Participation in the investigation of the death of an American diplomat working in Jordan.
- Investigation into the death of American who was killed in the hostage stand-off in Russia.

Deployments:

OAFME teams deployed on 59 medicolegal missions, all of which included on-site investigations:

1. January 9, 2002, Dover Port Mortuary, Dover, Del. Investigation of C-130 aircraft accident. B Ensign, A Baker, R Strasser, R Veasey, S Doyle, L Briscese, M Godwin.
2. January 15, 2002, Dover Port Mortuary, Dover, Del. Automobile accident investigation. A Baker.
3. January 17, 2002, Dewitt Army Community Hospital, Ft Belvoir, Va. Suicide investigation. SE Kornman, M Godwin.
4. January 18, 2002, Tucson, Ariz. A-10 mishap investigation. SL Robinson, L Briscese, R Veasey.
5. February 3, 2002, Rapid City Regional Hospital, Rapid City, SD. C-21 aircraft training accident investigation. SE Kornman, CL Williams, R Veasey.
6. February 8, 2002, Naval Medical Center, San Diego, Calif. Military vehicle training accident investigation. A Baker, R Strasser.
7. February 14, 2002, Camp Lejeune, NC. Death investigation. WC Rodriguez, D Knittel.
8. February 25, 2002, Dover Port Mortuary, Dover, Del. Investigation of helicopter accident. SE Kornman, B Ensign, R Veasey, S Doyle, L Briscese.
9. March 5, 2002, Dover Port Mortuary, Dover, Del. Investigation of death of active personnel killed in action. B Ensign, SE Kornman, A Baker, WR Oliver, R Veasey, S Doyle, CL Williams.
10. March 10, 2002, Buford, SC. Investigation of drowning death. A Baker.
11. March 21, 2002, Bethesda Naval Medical Center, Bethesda, Md. A Baker, SE Kornman, R

- Strasser, S Doyle, L Briscese.
12. March 25, 2002, WRAMC, Washington, DC. Investigation of natural death. SE Kornman, S Doyle.
 13. March 31, 2002, China Lake, Calif. Death investigation. E Rouse.
 14. April 3, 2002, Dover Port Mortuary, Dover, Del. Investigation of training accident. AA Marzouk, WR Oliver, B Ensign, R Veasey, S Doyle, L Briscese, B Turner.
 15. April 4, 2002, Dover Port Mortuary, Dover, Del. Death investigation. AA Marzouk, CL Williams, B Ensign, WR Oliver, S Doyle, R Strasser, L Briscese.
 16. April 11, 2002, Bethesda Naval Medical Center, Bethesda, Md. Death investigation. SE Kornman, JL Caruso.
 17. April 15, 2002, Dover Port Mortuary, Dover, Del. Explosion mishap investigation. AA Marzouk, A Baker, JL Caruso, WR Oliver, R Strasser, R Veasey, CL Williams, S Doyle.
 18. April 20, 2002, Puerto Rico. Death investigation. D Knittel, S Doyle.
 19. April 23, 2002, Bethesda Naval Medical Center, Bethesda, Md. Natural death investigation. AA Marzouk, JL Caruso.
 20. April 30, 2002, Offutt AFB, Nev. Natural death investigation. A Baker, R Strasser, S Doyle.
 22. May 8, 2002, Pensacola, Fla. Aviation mishap investigation. WC Rodriguez.
 23. May 9, 2002, Bethesda Naval Medical Center, Bethesda, Md. Homicide investigation. JL Caruso, SE Kornman, CL Williams, R Strasser.
 24. May 15, 2002, Bethesda Naval Medical Center, Bethesda, Md. A Baker, R Strasser, S Doyle.
 25. June 6, 2002, Dover Port Mortuary, Dover, Del. Investigation of UH-60 aircraft mishap. B Ensign, SE Kornman, R Veasey, M Godwin, BG Corrao.
 26. June 7, 2002, Bethesda Naval Medical Center, Bethesda, Md. Death investigation. B Ensign, R Strasser, M Godwin.
 27. June 14, 2002, Dover Port Mortuary, Dover, Del. Investigation of C-130 aircraft mishap. SE Kornman, WC Rodriguez, CT Mallak, WR Oliver, S Doyle.
 28. July 4, 2002, Dover Port Mortuary, Dover, Del. Investigation of A-10 aircraft mishap. AA Marzouk, R Veasey, M Godwin, WC Rodriguez.
 30. July 5, 2002, Bethesda Naval Medical Center, Bethesda, Md. Homicide investigation. CT Mallak, R Veasey, S Doyle.
 31. July 22, 2002, Jacksonville, Fla. Drowning investigation. CT Mallak.
 32. July 30, 2002, Southside Regional Medical Center, Richmond, Va. Drowning investigation. E Rouse, BG Corrao.
 33. August 6, 2002, Alamosa, Colo. Investigation of ATV accident. SE Kornman, R Strasser.
 34. August 7, 2002, Cayuas, PR. Investigation of C-130 aircraft mishap. SE Kornman, WC Rodriguez, E Rouse, CT Mallak, M Godwin, PA Kerr.
 35. August 9, 2002, Naval Hospital, Camp Pendleton, Calif. Homicide investigation. CT Mallak, WC Rodriguez, PA Kerr.
 36. August 18, 2002, San Diego, Calif. Investigation of hanging in custody/suicide. E Rouse.
 37. August 19, 2002, Bethesda Naval Medical Center, Bethesda, Md. Investigation of death due to fall. SE Kornman.
 38. August 21, 2002, Ft Polk, La. Helicopter crash investigation. B Ensign, R Veasey, PA Kerr.
 39. August 25, 2002, Ft Bragg, NC. Investigation of death due to gunshot wound. SE Kornman.
 40. August 27, 2002, Ft Bragg, NC. Investigation of death due to gunshot wound. SE Kornman.
 41. August 28, 2002, Roosevelt Roads, PR. Accident investigation. CT Mallak, BG Corrao.
 42. September 10, 2002, Cannon AFB, NM. Investigation of F-16 aircraft mishap. SE Kornman, R Veasey, PA Kerr.
 43. September 22, 2002, West Point, NY. Investigation of accidental death due to falling from a cliff. CT Mallak, WC Rodriguez, R Veasey, JJ Hodge, BG Corrao.
 44. October 11, 2002, Dover Port Mortuary, Del. Death investigation. SE Kornman, JL Caruso, PA Kerr.
 45. October 11, 2002, Naval Hospital, Jacksonville, Fla. Accident investigation. E Rouse, BG Corrao.
 46. October 25, 2002, Hill AFB, Salt Lake City, Utah. Investigation of F-16 aircraft mishap. E Rouse, R Strasser, PA Kerr, TD Page.
 47. October 28, 2002, Andrews AFB, Md. Investigation of assassination. CT Mallak, JJ Hodge, R

Strasser, TD Page.

48. November 11, 2002, Dover Port Mortuary, Dover, Del. Investigation of death due to inhalation of gas. JJ Hodge, E Rouse, R Veasey, BG Corrao.
49. November 13, 2002, Hill AFB, Salt Lake City, Utah. Investigation of F-16 aircraft mishap. E Rouse, M Godwin, JL Caruso.
50. November 15, 2002, Andrews AFB, Md. Investigation of death due to wall collapse. SE Kornman, R Strasser, PA Kerr.
51. November 21, 2002, Ft Myer, Va. Investigation of person found dead on base. E Rouse, M Godwin, R Strasser.
52. November 21, 2002, Jacksonville, Fla. Investigation of death on USS Hayar. CT Mallak.
53. November 28, 2002, Ft Benning, Ga. Investigation of death due to gunshot wound. SE Kornman, TD Page.
54. December 2, 2002, Springfield, Va. Investigation of death by heart attack. E Rouse, R Strasser, BG Corrao.
55. December 5, 2002, Nellis, Nev. JJ Hodge, PA Kerr, R Veasey.
56. December 7, 2002, Potomac Hospital, Bethesda, Md. Investigation of death by heart attack. SE Kornman, BG Corrao, R Strasser.
57. December 11, 2002, Honduras. Investigation of UH-60 aircraft mishap.
58. December 12, 2002, Hanau, Germany. Child abuse investigation. SE Kornman, PA Kerr.
59. December 20, 2002, Freehold, NJ. Motor vehicle accident investigation. SE Kornman, R Veasey, TD Page.

Quality Assurance:

The OAFME Quality Assurance program has maintained its group quality peer review of 100% of the consultation cases. The forensic pathologists participate in the biannual CAP Apex Forensic Pathology and Autopsy Pathology Programs. Check Samples in Forensic Pathology are also reviewed regularly.

EDUCATION

Presentations and Seminars: OAFME staff gave 14 presentations in 2002. Dates and titles are listed at the end of this report. OAFME regional staff gave 4 presentations.

Courses: OAFME staff conducted the Basic Forensic Pathology course in November 2002 for 85 attendees.

Trainees: No fellows completed the AFIP Forensic Pathology Residency of 365 days duration. JL Caruso and JJ Hodge commenced the residency in 2002. Ten Military Services investigative agents completed the AFIP Fellowship Program while attaining their Master of Forensic Science degrees in 2002. Fellows included Celia Story, William Russ, Erick Bryant, Phil Curran, Ronald Myer, Julie Lecea, Yun Cerana, Louis Perret, Keith Crook, and Kris Peterson. Approximately 365 trainee-days were accomplished by this group at AFIP. This program greatly benefits our medicolegal investigative efforts worldwide, in that these special agents go on to serve as forensic specialists and coordinators throughout the world.

RESEARCH

Publications: OAFME staff produced 2 journal articles and presented 1 abstract in 2002. Complete information appears at the end of this report.

OTHER ACCOMPLISHMENTS

- Two OAFME staff received appointments as Professorial Lecturers for George Washington University.
- OAFME staff testified as expert witnesses in several homicide trials and assault cases.
- OAFME had multiple media appearances, including national television.
- OAFME designed and manned 3 exhibits at meetings of the American Academy of Forensic Sciences, the Aerospace Medical Association, and the Association of Military Surgeons of the United States.

Collaborators:

OAFME works closely with the Military Services Safety Centers in aircraft accident investigations, safety issues, and educational endeavors for their respective aeromedical communities. We also provide aviation pathology training to the Canadian aeromedical community.

Honors:

- OAFME pathologists received the DoD Joint Service Commendation Medal for forensic pathology work in the aftermath of the Pentagon terrorist attack.
- WC Rodriguez was awarded the Army Superior Civilian Service Award for service during the 9-11 attacks.
- OAFME administrative staff received the AFIP Operation Noble Eagle Response to 11 September 2001 Certificate of Support.

Committees:

Editorial Boards:

1. *American Journal of Forensic Medicine and Pathology*, WC Rodriguez
2. *Journal of Forensic Sciences*, WC Rodriguez

Manuscripts Reviewed:

Members of the department reviewed 22 articles for the following journals:

1. *American Journal of Forensic Medicine*
2. *Journal of Forensic Sciences*

Offices/Committee Memberships in National or International Societies:

National Association of Medical Examiners Ad Hoc Committee on Chemical and Biological Terrorism, A Baker.

Faculty Appointments:

1. USAF School of Aerospace Medicine, Adjunct Faculty, B Ensign.
2. George Washington University/AFIP Master of Forensic Sciences Program, Adjunct Faculty and Course Director, Principles of Forensic Pathology, SE Kornman.
3. George Washington University/AFIP Master of Forensic Sciences Program, spring semester, Adjunct Faculty and Course Director, Principles of Forensic Pathology, A Baker.
4. George Washington University, Adjunct Professor, Department of Forensic Sciences, WC Rodriguez.

Consultant Positions:

WC Rodriguez:

- Chief Forensic Anthropological Consultant for the State of Maryland and the District of Columbia.
- Chief Consultant, FBI Forensic Science Training Unit, FBI Child Abduction and Serial Killer Unit.
- Co-Director, FBI's yearly Evidence Response Team-Field Course: Search and Recovery of Decomposed and Skeletonized Remains Evidence Response Team. FBI National Training Academy, Quantico, Va.

Continuing Education:

Department staff attended the Basic Forensic Pathology course in 2002.

PRESENTATIONS

1. February 2002: Rockville, Md, American Academy of Forensic Sciences – Toxicology Section, "Pediatric postmortem toxicology case studies," A Baker.
2. February 2002: Atlanta, Ga, 54th Annual Meeting of the American Academy of Forensic Sciences, "Recovery, examination and evidence of decomposed and skeletonized bodies: an anthropological and entomological approach," WC Rodriguez.
3. February 2002: Atlanta, Ga, 54th Annual Meeting of the American Academy of Forensic Sciences, "Effect of ant activity on decompositional rates and estimation of postmortem interval: a case study," WC Rodriguez.
4. February 2002: Atlanta, Ga, 54th Annual Meeting of the American Academy of Forensic Sciences, "The pits: recovery and examination of skeletonized remains from a concrete-filled fire pit," WC Rodriguez.
5. February 2002: Atlanta, Ga, 54th Annual Meeting of the American Academy of Forensic Sciences, "Accident, suicide, or homicide: a case study involving the investigation of skeletonized and bear-scavenged remains," WC Rodriguez.
6. April 2002: Washington, DC, WRAMC, 12th Annual Forensic Psychiatry Symposium, "Post-death investigations and mental health," SE Kornman.
7. April 2002: Washington, DC, WRAMC, 12th Annual Forensic Psychiatry Symposium,

“Firearm injuries,” A Baker.

8. April 2002: Montgomery County, Md, Department of Health and Human Services, “Inflicted trauma to children: the forensic pathologist’s prospective,” A Baker.
9. July 2002: Newport, RI, Naval Justice School, “Defending complex cases course,” SE Kornman.
10. August 2002: Houston, Tex, Annual Meeting of the International Homicide Investigators Association, “War crime investigations in Kosovo: US federal response,” WC Rodriguez.
11. September 2002: Shreveport, La, 36th Annual Meeting of the National Association of Medical Examiners, “Anthropological examination of the decomposed remains of a newborn to determine age and cause of death,” WC Rodriguez.
12. September 2002: Shreveport, La, 36th Annual Meeting of the National Association of Medical Examiners, “Forensic science – too late or not in time: a forensic anthropological perspective of a civil rights murder investigation in Alabama,” WC Rodriguez.
13. September 2002: Shreveport, La, 36th Annual Meeting of the National Association of Medical Examiners, “Revised rapid screening procedure for histological differentiation between human and non-human skeletal remains,” WC Rodriguez.
14. September 2002: Lubbock, Tex, 10th Annual West Texas Medical Legal Investigators Course, “September 11, 2001, the response to the attacks on the Pentagon and Shanksville, Pa,” CT Mallak.

PUBLICATIONS

Journal Articles:

1. Potter RN, Gardner JW, Deuster PA, Jenkins P, McKee K, Jones BH. Musculoskeletal injuries in an Army Airborne population. *Mil Med.* 2002;167:1033-1040.
2. Oliver WR, Baker AM, Powell JD, Cotone CM, Meeker J. Estimation of body exposure to explosion. *Am J Forensic Med Pathol.* 2002;23:252-256.

Presented Abstract:

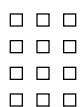
Pearse LA, Potter RN. March 2002: Atlanta, Ga, International Conference of Emerging Infectious Diseases: Mortality Surveillance for Emerging Infection-Related Deaths in the Armed Forces.

GOALS

1. Increase staffing to working levels. In 2002, the staff consisted of 3 credentialed providers, down from the traditional 7 or 8. While mission requirements were met, education, research, and publication endeavors suffered. In the coming year, the credentialed staff will increase to 7, allowing for a return to these endeavors.
2. Implement the revised Medical Examiner sections of the DoDI 5154.30. The new instruction provides for increased responsibility of this office in the areas of mortality registry and psychological investigations of the causes and manners of deaths. The mortality registry is now well established and will be undertaking studies such as deaths associated with ephedrine use and exertion-associated deaths, to provide objective data to the leadership of military medicine. The other major focus will be the implementation of the first DoD-wide psychological autopsy service to better understand the causes and manners of death, to assist in evaluating prevention programs.
3. The forensic pathology fellowship program will be reviewed in the next 12 months by the Residency Review Committee. Numerous changes have been made to the program, including the implementation of the required core competencies and 360-degree evaluation. The office expects to receive full accreditation of the program.
4. The office will be applying for accreditation, for the first time, from the National Association of Medical Examiners. This relatively new program recognizes medical examiner offices that meet or exceed the standards set out by this professional organization.
5. Expand the involvement of this office as the only Federal Medical Examiners System with the Department of Homeland Defense.



Aaron Jacobs, COL, MS, USA
Chief
Date of Appointment — 30 May 2000



DIVISION OF FORENSIC TOXICOLOGY

MISSION

The Division of Forensic Toxicology provides toxicology laboratory testing and consultation for medical examiner investigations, other DoD forensic cases, and the drug testing quality assurance program. It also provides education and research for DoD organizations worldwide for these areas of pathology.

ORGANIZATION

The division is organized into 6 branches and the Office of the Chief:

1. Postmortem/Human Performance Laboratory Branch – Eric T. Shimomura, PhD
2. DoD Drug Detection QA Laboratory Branch – Thomas Z. Bosy, LT, MSC, USN
3. Research and Education Branch – Kathryn S. Kalasinsky, PhD
4. Drug Testing Research Branch – Buddha Paul, PhD
5. Analytical Services Branch – Joseph Magluilo, Jr
6. Quality Assurance Branch – Jeffrey D’Nicuola, MSgt, USAF

STAFF

Scientific:

- Aaron Jacobs, COL, MS, USA, Chief Deputy Medical Examiner, Forensic Toxicology
John Jemionek, CAPT, MSC, USN, Special Projects Officer
Eric T. Shimomura, PhD, Chief, Postmortem/Human Performance Lab
Thomas Z. Bosy, LT, MSC, USN, Chief, DoD Drug Detection QA Laboratory
Kathryn S. Kalasinsky, PhD, Chief, Research and Education
Buddha D. Paul, PhD, Chief, Drug Testing Research
Joseph Magluilo, Jr, Chief, Analytical Services
Katherine Abold, 1Lt, USAF, Research Chemist
Barry S. Levine, PhD, Toxicologist
(D) Jason Sklerov, Senior Mass Spectroscopist
Robert O. Hughes, MS, QA Chemist
Robert L. Jones, Analytical Toxicologist
Joseph W. Addison, Analytical Toxicologist Technician
Marcie M. Dixon, Research Assistant
Karoline K. Shannon, Analytical Services Technician
Adeyinka Babalola, Laboratory Technician
(A) Dawn Cox, Laboratory Technician
Justin Holler, Laboratory Technician
William E. Mayo, Laboratory Technician
Rhonda J. Martin, MSgt, USAF, Laboratory Technician
(D) James Arrington, SSG, USA, Laboratory Technician
Sherry L. Pluche, HM1, USN, Laboratory Technician
(A) Daniel Trinidad, HM1, USN, Laboratory Technician
(D) Kenesah Ferebee, SSgt, USAF, Laboratory Technician
Emilda Greenidge-Blake, SSgt, USAF, Laboratory Technician

(D) John D. Filburn, HM2, USN, Laboratory Technician
 (A) John Kohler, HM2, USN, Laboratory Technician
 (A) Michael Malloy, HM2, USN, Laboratory Technician
 (A) Avri McKnight, SSgt, USAF, Laboratory Technician
 (D) James E. Miller, HM2, USN, Laboratory Technician
 Leah Milliman, HM2, USN, Laboratory Technician
 Gregory R. Shepard, SGT, USA, Laboratory Technician

Administrative:

Steve W. Hale, SMSgt, USAF, Superintendent, Division of Forensic Toxicology
 (D) Jeffrey D'Nicuola, MSgt, USAF, Superintendent, DoD Drug Detection QA Laboratory
 Teresa M. Schaefer, Computer Specialist
 (A) Tara Short, Administrative/Computer Specialist
 (D) Kim Wells, Administrative/Computer Specialist
 Jaqueline O. Jordan, Secretary

DIAGNOSTIC CONSULTATION

In 2002, the division completed and reported 7,229, with 6.9 calendar days average turn-around time.

<i>Type of Case</i>	<i>Source of Case</i>
Aircraft Incidents 2,525	USA 2,141
Air Fatalities 107	USAF 1,446
Criminal/Investigative 2,106	USN 1,061
Postmortem 414	USMC 57
Quality Controls 358	USCG 164
Surveys 80	DCME 1,639
DCME (Investigative) 213	Civilian/Other 283
DCME (Postmortem) 1,426	QC/Surveys 438
TOTAL 7,229	TOTAL 7,229

Our division developed 1 new method for toxicological analysis: A method to study the effects of oxidizing adulterants on drugs of abuse.

Deployments:

1. January 2002, Bolling AFB, Court Martial, TZ Bosy.
2. February 2002, Kessler AFB, Court Martial, TZ Bosy.
3. March 2002, Pearl Harbor, Court Martial, TZ Bosy.
4. June 20, 2002, US Park Police, Alexandria, Va, Expert Witness, B Paul.
5. July 1-3, 2002, Peterson AFB, Colo, Expert Witness, A Jacobs.
6. July 15-19, 2002, US Coast Guard, Cape May, NJ, Expert Witness, B Paul.
7. August 2002, Lackland AFB, Court Martial, TZ Bosy.
8. November 2002, Lackland AFB, Court Martial, TZ Bosy.
9. December 15-19, Nellis AFB, Nev, Expert Witness, A Jacobs.

National/International Consultations:

1. Air Force Legal Office, McGuire AFB, NJ, B Paul.
2. Office of the Secretary of Defense, Pentagon, Va, B Paul.
3. Naval Legal Service Office, Norfolk, Va, B Paul.
4. Air Force Legal Office, Andrews AFB, B Paul.
5. US Coast Guard, NJ, B Paul.
6. Naval Weapons Station, Earle, NJ, B Paul.
7. Navy Legal Office, Jacksonville, Fla, B Paul.
8. Army Legal Office, Germany, B Paul.
9. Legal Office of Montgomery County, Md, B Paul.
10. Army Legal Office, Ft Lewis, B Paul.
11. Army Legal Office, Ft Richard, B Paul.
12. University of Frankfurt, Germany, B Paul.

13. Navy Environmental Health Center, Portsmouth, Va, B Paul.
14. Central Intelligence Agency, Va, B Paul.
15. San Diego County Medical Examiners Office, Calif, KS Kalasinsky.
16. Area Defense Council, Charleston AFB, KS Kalasinsky.
17. Naval Surface Warfare, Dothan, Va, KS Kalasinsky.

Quality Assurance:

Inspection Teams:

1. January 2002, Navy Drug Testing Lab, Jacksonville, Fla, TZ Bosy.
2. January 2002, Army Drug Testing Lab, Tripler, Hawaii, A Jacobs
3. March 2002, Navy Drug Testing Lab, San Diego, Calif, TZ Bosy.
4. April 2002, AF Drug Testing Lab, San Antonio, Tex, A Jacobs.
5. April 2002, Army Drug Testing Lab, Ft Meade, Md, J Jemionek.
6. April 2002, Navy Drug Testing Lab, Great Lakes, Ill, J Jemionek.
7. April 2002, Navy Drug Testing Lab, Jacksonville, Fla, A Jacobs.
8. June 2002, Army Drug Testing Lab, Tripler, Hawaii, A Jacobs.
9. July 2002, Navy Drug Testing Lab, San Diego, Calif, TZ Bosy.
10. August 2002, Navy Drug Testing Lab, Great Lakes, Ill, TZ Bosy.
11. August 2002, Navy Drug Testing Lab, Jacksonville, Fla, A Jacobs.
12. August 2002, Army Drug Testing Lab, Ft Meade, Md, J Jemionek.
13. September 2002, AF Drug Testing Lab, San Antonio, Tex, A Jacobs.
14. September 2002, Special Inspection AF DTL, San Antonio, Tex, A Jacobs.
15. September 2002, Army Drug Testing Lab, Tripler, Hawaii, TZ Bosy.
16. November 2002, Navy Drug Testing Lab, San Diego, Calif, J Jemionek.
17. December 2002, Army Drug Testing Lab, Ft Meade, Md, A Jacobs.
18. December 2002, Navy Drug Testing Lab, Great Lakes, Ill, TZ Bosy.
19. December 2002, AF Drug Testing Lab, San Antonio, Tex, B Paul.

Proficiency Exams:

1. Participated in 7 proficiency tests (AL2, FTC, SO, UDC, UT, T, NHTSA: Blood Alcohol).
2. Performed in-house proficiency testing for psilocin and gamma-hydroxybutyrate.
3. Ran the DoD drug testing open and blind proficiency program worldwide, producing a total of 19,500 QC specimens for 2002: 3,946 military open proficiency specimens, 14,976 military blind proficiency specimens, 578 civilian proficiency samples. Special Product Testing/Prevalence Testing for 2,340 samples.

EDUCATION

Presentations and Seminars: Division staff presented 7 papers at scientific conferences in 2002. Dates and titles are listed at the end of this report. Continuing education seminars were given throughout the year by external and internal professionals for the scientific staff of the division.

Trainees: The division provided toxicology training for internists and Army Reservists. The division also supported training for toxicology internships for Naval Academy midshipmen and West Point cadets.

RESEARCH

Publications: Division staff published 4 articles in refereed journals, and 1 book chapter. Complete information is included at the end of this report.

Projects: The division maintained 9 research projects in 2002, as listed below. Six official research protocols were open as of December 31, 2002.

1. Quantitation of THC in Hemp Oil Products
2. Hair Analysis for Drugs of Abuse
3. Drug Distribution in Brain of Autopsied Overdose Cases
4. Direct Sampling of Abused Drugs for GC/MS Analysis
5. IR Methods of Analysis for Drugs of Abuse
6. Prevalence Studies on Benzodiazepines, 6-A Methylmorphine, and Oxycontin

7. Benzodiazepine Use Rate in Active Duty Military Members
8. Clinical Studies of Cocaine Administered to Humans
9. Effects of Oxidizing Adulterants on Drugs of Abuse in Urine

Research Funds Received: One ARP research grant was in operation in 2002: Direct Sampling of Abused Drugs for GC/MS Analysis – \$10,000, KS Kalasinsky.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Navy Drug Screening Laboratory, San Diego, Calif, Detection of Amphetamine-type Compounds in Urine.
2. Dr. Marilyn Huestis, Addiction Research Center, NIDA, NIH, Baltimore, Md, Clinical Studies of Cocaine Administered to Humans.
3. LCDR Rich Gustafson, Addiction Research Center, NIDA, NIH, Baltimore, Md, Clinical Studies of Hemp Oil Administered to Humans.
4. All DoD Drug Testing Laboratories, Development of New Drug Testing Methods.

Civilian:

1. Dr. Peter Griffiths, University of Idaho, Moscow, GC/LC/IR Methods of Analysis for Drugs of Abuse.

International:

1. Dr. Stephen Kish, Clarke Institute of Psychiatry, Toronto, Canada, Drug Distribution in Brain of Autopsied Overdose Cases.

Committees:

Editorial Boards:

KS Kalasinsky:

1. *Applied Spectroscopy Reviews*
2. *Spectroscopy*
3. *Spectrochimica Acta Part A: Molecular Spectroscopy*

Manuscripts Reviewed: Division staff reviewed 4 articles for the following professional journals:

1. *Drug and Alcohol Dependence* (1), B Paul
2. *Applied Spectroscopy* (1), KS Kalasinsky
3. *Spectrochimica Acta* (1), KS Kalasinsky
4. *Spectroscopy* (1), KS Kalasinsky

Offices/Committee Memberships in National or International Societies:

KS Kalasinsky:

1. Board of Managers, Coblenz Society
2. Newsletter Editor, Coblenz Society
3. Nominating Committee, Society for Applied Spectroscopy
4. Tellers Committee, Society for Applied Spectroscopy

National Panels:

1. NMLC (Navy Medical Logistics Command) Technical Evaluation Board – A Jacobs, TZ Bosy, B Paul.
2. DoD Biochemical Testing Advisory Committee – A Jacobs (Chair), KA Cole, TZ Bosy.
3. HHS Drug Testing Advisory Board Working Group – TZ Bosy.
4. National Drug Control Policy Working Study – TZ Bosy.
5. DoD Drug Testing Reagent Contract Technical Evaluation Board – TZ Bosy.
6. DoD Laboratory Certification Inspection Program – A Jacobs, TZ Bosy, B Paul, J D'Nicuola.
7. COR Inspection Service Contract – A Jacobs, TZ Bosy, J D'Nicuola.

Faculty Appointments:

George Washington School of Medicine, Assistant Adjunct Professor, TZ Bosy.

PRESENTATIONS

1. February 2002: Chicago, Ill, American Academy of Dental Research, "Typing of human papilloma virus in focal epithelial hyperplasia within an older patient population," TZ Bosy.
2. March 2002: New Orleans, La, Pittsburgh Conference on Analytical Chemistry and Spectroscopy, "New substances of abuse: from plant material to garage laboratories, detection and deterrence," KS Kalasinsky, MM Dixon, A Jacobs.
3. June 2002: Honolulu, Hawaii, Tri-Service Drug Testing Laboratory Meeting, "Effect of oxidizing adulterants on detection of THC-acid in urine," B Paul.
4. June 2002: Honolulu, Hawaii, Tri-Service Drug Testing Laboratory Meeting, "Smoking cocaine and drinking alcohol: a deadly mix," B Paul.
5. June 2002: Honolulu, Hawaii, Tri-Service Drug Testing Laboratory Meeting, "PMA/PMMA detection in urine by GC/MS," MM Dixon.
6. August 2002: Paris, France, International Association of Forensic Toxicologists, "Ethyl ecgonidine and nor-ecgonidine, two new metabolites of cocaine smoking, in human urine," B Paul, JW Addison.
7. October 2002: Dearborn, Mich, Society of Forensic Toxicologists, "PMA overdose case: examination of blood, brain and hair," KS Kalasinsky, MM Dixon, SJ Kish.

LECTURES

Division staff presented the following lectures as parts of courses organized and directed by the AFIP or other agencies:

1. April 2002: Maxwell AFB, Ala, Advanced Trial Advocacy Course, "Hair analysis," KS Kalasinsky.
2. April 2002: Maxwell AFB, Ala, Interservice Military Judges Seminar, "Hair analysis," KS Kalasinsky.
3. November 2002: Charlottesville, Va, Criminal Law Developments Course, The Army Judge Advocates General's School, "Hair analysis," KS Kalasinsky.
4. December 2002: King of Prussia, Pa, Nicolet Research Symposium, "Infrared microscopy of human hair for the study of ingested drugs," KS Kalasinsky.
5. December 2002: Greenbelt, Md, Nicolet Research Symposium, "Infrared microscopy of human hair for the study of ingested drugs," KS Kalasinsky.

PUBLICATIONS

Journal Articles

1. Ross BM, Moszczynska A, Perette FJ, Adams V, Schmunk GA, Kalasinsky KS, Ang L, Mamalias N, Turenne SD, Kish SJ. Decreased activity of brain phospholipid metabolic enzymes in human users of cocaine and methamphetamine. *Drug Alcohol Depend.* 2002;67:73-79.
2. Ross BM, Brooks RJ, Lee M, Kalasinsky KS, Vorce SP, Seeman M, Fletcher PJ, Turenne SD. Cyclo-oxygenase inhibitor modulation of dopamine-related behaviors. *Eur J Pharmacol.* 2002;450:141-151.
3. Paul BD, Jacobs AJ. Effects of oxidizing adulterants on detection of 11-nor-delta-9-THC-9-carboxylic acid in urine. *J Anal Toxicol.* 2002;26:460-463.
4. Paul BD, Addison JW. Ethyl ecgonidine and nor-ecgonidine, two new metabolites of cocaine smoking, in human urine. *Ann Toxicol Anal.* 2002;14:191.

Book Chapter

Kalasinsky KS, Kalasinsky VF. HPLC/FT-IR. In: Chalmers JM, Griffiths PR, eds. *Handbook of Vibrational Spectroscopy*. Vol 2. Chichester, England: John Wiley & Sons; 2002:1641-1660.

GOALS

1. To support the United States Department of Defense's readiness for joint operations.
 - Ensure a drug-free fighting force through high-quality drug testing.
 - Continue to operate the drug testing laboratory proficiency program.
 - Continue to operate the centralized DoD forensic toxicology laboratory that supports aircraft and ship accident investigations.
 - Fully implement the centralized DoD Drug Testing Laboratory Inspection Program.
2. To assist in the provision of top-quality, cost-effective health care benefits.

- Prevent disease from drug abuse by supporting the medical department drug deterrence program. Accomplish this goal by providing a centralized, cost-effective drug testing proficiency program and laboratory inspection program for DoD.
 - Continue to provide high-quality, cost-effective medicolegal service through centralized forensic toxicology testing for DoD.
 - Develop faster methods for shipping samples to this centralized laboratory and returning forensic results to customers.
 - Add tests with lower limits of detection that will identify toxins that cause death or impairment for a longer period of time.
3. To assist in the development of military and civilian health care leaders.
 - Continue with education programs, sponsoring internships, and consultations.
 - Teach forensic toxicology courses in the USUHS forensic science program.
 - Develop an on-line forensic toxicology course through the AFIP CAME.
 4. Develop innovations and validate applications of new technologies.
 - Find new methods to detect adulterants in urine submitted for drug testing.
 - Find chemical markers that distinguish route of administration of drugs of abuse.
 - Develop nondestructive methods of analysis for drugs in tissue and body fluid.
 - Develop methods for unique biological matrices for detection of drugs of abuse.
 - Monitor abuse of other controlled substances that are not routinely tested.



Brion C. Smith, COL, DC, USA
Chief Deputy Medical Examiner
Director, Department of Defense DNA Registry



DoD DNA REGISTRY OFFICE OF THE ARMED FORCES MEDICAL EXAMINER

MISSION

The Department of Defense DNA Registry (Forensic DNA Division) supports the ongoing missions of the Armed Forces Medical Examiner System (AFMES) and the Armed Forces Institute of Pathology (AFIP) through consultation, education, and research as the global leader in human remains identification, forensic DNA analysis, mass-fatality incident management, bioinformatics development and management, as well as reference specimen collection, storage, and retrieval services. The DNA Registry provides mtDNA casework analysis, data management, and research support to the United States Army's Central Identification Laboratory-Hawaii (CILHI) to assist in their mission of servicemember remains recovery and identification. One hundred percent of DoD-funded resources are applied in direct support of DoD-relevant missions.

STAFF

Administrative

James J. Canik, Deputy Program Director (ARP)
Thomas J. Parsons, PhD, Chief Scientist (ARP)
Jeanette Ransom, Secretary (GS)
(D) Araceli Galapon, Administrative Assistant (ARP)
Deborah Baker, Administrative Assistant (ARP)
(A) Lisa M. Gallman, Administrative Assistant (ARP)
(A) Krystal N. Harris, Administrative Assistant (ARP)
Richard Lewis, BS, RMT, QA/RM and Safety Officer (GS)

Information Technology Branch

James P. Ross, Chief Information Officer (ARP)
Aaron Waldner, Systems and Network Administrator (EDS)
Manuel Aniebonim, PhD, LIMS Project Manager (FTI)
Richard Coughlin, Network Administrator (FTI)
Vinh Lam, Lead Systems Analyst (FTI)
(D) Earl Belala, Analyst (FTI)
Jon Norris, Software Developer (FTI)
(D) John Connors, Associate Analyst (FTI)
(A) David Bergman, Associate Analyst (FTI)
(A) Vassilev Dobromir, Systems Analyst (FTI)
(A) Svetlana Cheshmedjieva, Software Developer (FTI)

Office of Resource and Contract Management

Kevin S. Carroll, CLS(NCA), Resource/Contracts Manager (GS)
Marjorie Q. Bland, BS, DNA Program Coordinator (GS)
Candace Eastman, MBA, Budget Analyst (ARP)
Mauricio Rivera, Inventory Management Specialist (ARP)
Jeanette Ransom, Secretary (GS)

AFDIL Mitochondrial DNA Section

Suzanne M. Barritt, MS, Technical Leader (ARP)
 Christine A. Boyer, MSFS, Assistant Technical Leader (ARP)
 Amanda Blanchard, MS, Assistant Technical Leader (ARP)
 Mark J. Wadhams, MS, Supervisory DNA Analyst (ARP)
 Jacqueline S. Raskin-Burns, MS, Supervisory DNA Analyst (ARP)
 Michael A. Fasano, BA, DNA Analyst III (ARP)
 Gail M. Conklin, MFS, Supervisory DNA Analyst II (ARP)
 Diane L. Herman, MFS, DNA Analyst II (ARP)
 Suni M. Edson, MFS, Supervisory DNA Analyst (ARP)
 Chad M. Ernst, BS, DNA Analyst II (ARP)
 Jennie C. Groover, BS, DNA Analyst II (ARP)
 Jennifer G. Kappeller, BS, DNA Analyst I (ARP)
 Tracey L. Johnson, BS, DNA Analyst I (ARP)
 Christopher G. Los, MFS, PCR Supervisor (ARP)
 Marina M. Bruner, BS, Casework Administrator (ARP)
 Carna E. Meyer, MFS, DNA Analyst I (ARP)
 Laura Cannon, MFS, DNA Analyst (ARP)
 Gregory N. Smith, MFS, DNA Analyst I (ARP)
 Sarah L. Bettinger, MSFS, DNA Analyst (ARP)
 (A) Pamela G. Jarman, MSc, DNA Analyst (ARP)
 (D) Christy A. Smejkal, MS, DNA Analyst (ARP)
 Nicol R. Jimerson, BS, Supervisor, Database Team (ARP)
 Miriam Narvaez-Thompson, BA, Acting Supervisory Analyst (ARP)
 George Lin, MFS, Analyst I (ARP)
 Nissa Abbasi, BS, Analyst (ARP)
 Stephen D. Gresko, BS, Technician (ARP)
 Richon E. Tate, BS, Technician (ARP)
 Ryan E. Vachon, BA, Technician (ARP)
 (D) Raina Greif, BS, Technician (ARP)
 Jill E. Appleby, BS, Technician (ARP)
 Carter A. Cromartie, BS, Technician (ARP)
 Craig W. King, BS, Technician (ARP)
 Kerri D. Murphy, MFS, Technician (ARP)
 Heather A. Thew, MS, Technician (ARP)
 Jocelyn R. Weart, BS, Technician (ARP)
 (A) Scott C. Schroeder, BS, Technician (ARP)
 Natasha Cabouet, BS, Lab Assistant (ARP)
 Amy E. Champion, BS, Technician (ARP)
 Kerry L. Maynard, BS, Technician (ARP)
 Kristen A. Wojcik, MSFS, Technician (ARP)
 (A) Sarah Lewis, BS, Technician (ARP)
 (A) Emma Swartout, MS, Technician (ARP)
 (A) Megan Tiemann, BA, Technician (ARP)
 Danielle E. Goldstein, BSBA, Evidence Custodian (ARP)
 Amie L. Benson, BS, PT Lab Assistant (ARP)

Nuclear DNA, QC Team, AFDIL^{cs}, Training and Education

Demris A. Lee, MSFS, Technical Leader (ARP)
 Susan Jones, PhD, OAFME DNA Analyst II (ARP)
 Patricia Loudon, PhD, OAFME Analyst I (ARP)
 James DiFrancesco, MFS, OAFME DNA Technician (ARP)
 Kimberly B. Murga, MFS, AFDIL^{cs}, Supervisor (ARP)
 Deborah Haller, AFDIL^{cs}, DNA Analyst III (ARP)
 Robert M. Fisher, MFS, AFDIL^{cs}, Analyst (ARP)
 Ethny Obas, MT, QC DNA Analyst I (ARP)
 Jennifer F. Banaag, MFS, QC Technician (ARP)
 Whitney E. Dimling, BS, QC Technician (ARP)
 Theodore D. Anderson, MFS, Training/Education (ARP)
 Timothy McMahon, PhD, Valiation Project Coordinator (ARP)
 Gina Sola, MFS, Database Technician (ARP)
 Susan Welti, Database Technician (ARP)

AFDIL Research Section

Thomas J. Parsons, PhD, Chief Scientist (ARP)
 Jodi A. Irwin, MS, Research DNA Technologist II (ARP)
 Michael D. Coble, Research DNA Technologist (ARP)
 (D) Ilona Letmanyi, Research DNA Technician (NIJ)
 (D) Christine T. Harvie, Research DNA Technician (NIJ)
 (A) Jennifer L. Eyster, Research DNA Technician (NIJ)
 (A) Rebecca E. Hamm, Research DNA Technician II (NIJ)

Armed Forces Repository of Specimen Samples for the Identification of Remains (AFRSSIR)

David Boyer, MFS, Director of Operations (GS)
 Jackie Graham, BS, Repository Supervisor (ARP)
 Herbert Simms, Inventory Management Specialist (GS)
 Tonya Summers, Administrative Assistant (ARP)
 Amanda Solares, Lead QC Technician (ARP)
 Marie Reese, QC Technician (ARP)
 George Galapon, Senior Specimen Processor (ARP)
 Mariafe Vance, Senior Specimen Processor (ARP)
 Gloria Lindmark, Senior Specimen Processor (ARP)
 Arvin Solis, Senior Specimen Processor (ARP)
 Diane Giampetroni, Senior Specimen Processor (ARP)
 Ernie Costes, Specimen Processor (ARP)
 Steven Thompson, Specimen Processor (ARP)
 Michael Rhoades, Specimen Processor (ARP)
 Al Lambert, Network Administrator (EDS)
 (D) Lisa Gallman, Specimen Processor (ARP)
 (D) Fred Justiniaro, Systems Administrator (EDS)
 (A) Rene Malones, Systems Administrator (FTI)

DIAGNOSTIC CONSULTATIONS (MACPATH):

Cases	Completed
Military	232
Army (10)	
Navy (10)	
Air Force (267)	
Federal	724
OFA (724)	
Civilian	171
Total	1,404

Impact:

The DoD DNA Registry is a division of the AFMES and an operational element of the AFIP. The Office of the Surgeon General (OTSG) provides Army Executive Agency. The registry has two subordinate branches, the Armed Forces DNA Identification Laboratory (AFDIL) and the Armed Forces Repository of Specimen Samples for the Identification of Remains (AFRSSIR). The registry is charged with the missions of DNA identification of human remains, information technology development, mass fatality management, and DNA reference specimen collection and storage for the Department of Defense. In addition to routine AFMES casework, the registry maintains a 3-person Outside Casework and Mass Fatality Contingency Section that performs reimbursable casework for other federal and non-federal clients until they are required for a multivictim mission. This core mission is funded through the Defense Health Program (DHP). DHP funding levels have been incrementally decreased or unchanged over the last 3 fiscal years, whereas the demand for DoD-related casework and bloodstain card collections continued to grow annually.

CILHI is a field-operating agency of the US Army Casualty and Memorial Affairs Operations Center (CMAOC), a division of the Personnel Command (PERSCOM), which is a component of the Army G-1. CILHI is the lead element in the search, recovery, and identification of US servicemembers from prior American conflicts. Although CILHI meets most mission requirements with internal assets (forensic anthropology, odontology, data analysis), it has become increasingly reliant upon the use of mitochondrial DNA, which is currently needed for more

than 60% of their cases. As the recognized world leader in this technology, AFDIL has provided the DNA support to CILHI since 1994, when it was first requested by the Army G-1. The G-1 continues to reimburse AFDIL for the costs of these DNA services through a Memorandum of Agreement (MOA) between AFIP and CMAOC. This funding has been inconsistent, but has generally increased over the last 3 years.

One hundred percent of the division’s casework and research is directly applicable to the support of the DoD mission. Non-DoD casework is performed only with specific authorization and only on the basis of full reimbursement.

DoD DNA REGISTRY OFFICE OF RESOURCE AND CONTRACT MANAGEMENT (ORCM)

The Office of Resource and Contract Management of the Department of Defense DNA Registry is comprised of a core group of US government employees. As such, this office is responsible for all activities that are considered governmental, including the processing and procurement of all laboratory requests for reagents, laboratory supplies, equipment, maintenance services, facility management activities, travel requests, and MOA processing, monitoring, and execution. Other activities include human resource functions, budget formulation, execution, monitoring and reporting, inventory and supply stock management, equipment inventory and accountability. Further activities include contracts management, including the critical contract for Information Technology (IT) services.

Specific accomplishments during calendar year 2002:

- 1. Managed the renovation of 30% of Gillette Building 101, 2nd floor, allowing the DNA Registry to reoccupy this space and providing an additional 20-person work environment and ergonomic upgrades to all areas of Building 101.
- 2. Individual Contracts Managed:
 - ARP Personnel Services \$5,100k
 - American Biomedical Group, Inc. \$95k
 - Medical Equipment Maintenance Co. \$50k
 - RASCo. Reagent Grade Water \$15k
 - Pipette Calibrations \$35k
 - Future Technologies, Inc. \$1,200k
- 3. Appropriations Management and Execution:
 - Defense Health Program (DHP) \$3,928k
 - Operations and Maintenance, Army (OMA) \$6,800k
- 4. IMPAC Credit Card Program:

Appropriations	#Demands	#Line Items	Total
DHP	118	275	\$360k
OMA	301	447	\$400k
- 5. Routine Purchase Requests:

Appropriations	#Demands	#Line Items	Total
DHP	32	79	\$1,086k
OMA	33	101	\$1,078k
- 6. Laboratory Integrated Delivery System (LIDS):

Appropriations	#Demands	#Line Items	Total
DHP	13	92	\$79k
OMA	9	49	\$54k
- 7. Administered and managed IT services contracts for software development, network support, and database management.
- 8. Directed the development, testing, and deployment of the DNA Registry Inventory Management Systems (DRIMS), a comprehensive module within the Laboratory Information Systems Application (LISA) operating system of the Laboratory Information Management System (LIMS). This program allows for the automated scheduling of laboratory replenishment, equipment failure notification, comprehensive manufacturer, supply, and distribution information collection, and other integrated inventory man-

agement functions. Automated order processing functions are scheduled for calendar year 2003.

9. Managed the DNA contract line item numbers (CLIN) of the Personnel Services contract with the American Registry of Pathology (ARP). These CLINs represent approximately 100 administrative, managerial, scientific, and technical positions at the AFDIL and AFRSSIR.

ARMED FORCES DNA IDENTIFICATION LABORATORY (AFDIL)

MITOCHONDRIAL DNA SECTION:

2002 proved to be a challenging year for the Mitochondrial DNA (mtDNA) Section of the AFDIL. The adverse impact of a significant delay in funding from the Army G-1, some of which did not arrive until the summer, was softened by a priority shift from casework to family reference database sample processing.

Despite the funding challenge, the mtDNA Section surpassed prior years' productivity. The family reference databasing team of the mtDNA Section more than tripled the output of samples processed and analyzed in 2001 (616 family reference samples) and reported 1,971 family reference specimens for 2002 in support of the Family Reference Outreach programs of the various military services. The relationship between the scientists and administrative staffs of AFDIL and CILHI continues to strengthen. The mtDNA section reported 449 specimens for 2002 versus the 2001 reporting of 373 specimens, with a goal for 2003 of 650 specimens and 1,500 family reference samples.

Several activities continue to foster the positive interaction between AFDIL and CILHI. Once again, the DoD DNA Registry sponsored a joint AFDIL-CILHI symposium at the annual meeting of the American Academy of Forensic Sciences in Atlanta, Ga. The scientific exchange program with CILHI remains viable. Three times a year, an AFDIL caseworker has the chance to spend a week at CILHI and work side-by-side with their highly experienced anthropologists and odontologists.

NUCLEAR DNA SECTION

The Nuclear DNA (nucDNA) OAFME section provides the OAFME with DNA analyses for identification and reassociation of human remains. In 2002, the section processed more than 500 samples, leading to 75 identifications of military personnel from recent death investigations. Approximately 12 of these identifications were from the Global War on Terrorism (GWOT) in Afghanistan and elsewhere.

In 2002, the AFDIL Consultative Services (AFDIL^{CS}) Section, specifically approved by the Principal Deputy Director for surge capacity, received 30 cases for DNA processing. Of those received, 1450 samples were processed for nuclear DNA analysis using the Short Tandem Repeats (STR) technology, and 40 were processed for mtDNA analysis.

Of the 30 cases submitted, 17 were from civilian agencies, 7 were from military agencies and 6 were from federal agencies. These "routine" cases are performed on a strict reimbursement basis, require prior authorization, and are used to ensure staff competency and currency.

The Quality Control Section acquired a Transgenomic WAVE® system for nucleic acid fragment analysis in order to improve the quality of primers synthesized in-house.

In April 2002, AFDIL, along with the Hagerstown Police Department, were the hosts of the 2002 Mid-Atlantic Association of Forensic Sciences (MAAFS) meeting. Our Training and Education Coordinator was responsible for securing a site for the meeting, planning the program, including appropriate workshops and oral presentations, and inviting relevant vendors. The meeting was attended more than 400 participants.

The following month, AFDIL sponsored the annual International DNA Analytical Training Course, which was attended by individuals from Russia, Vietnam, Singapore, Malaysia, and the US. AFDIL negotiated the services of 10 no-cost interns last year from various universities

including George Washington University, George Mason University, Marshall University, Michigan State, Ohio Northern, Ohio University, the University of Southern Mississippi, and the University of Rhode Island.

A long standing vacancy at AFDIL was finally filled in the Validation Project Coordinator position. This position was created to bridge the gap from de novo research to casework implementation for both nuclear and mitochondrial DNA disciplines. Mitochondrial amplification conditions and primer sets have been optimized, yielding improved efficiency, and the Applied Biosystems, Incorporated (ABI) 3100, a 16 capillary CE DNA sequencer, has been validated for in-house for mitochondrial databasing and is currently being validated for both mitochondrial and nuclear casework. The 3100 is a more sensitive detection instrument and designed to increase specimen throughput.

RESEARCH SECTION

2002 marked a productive period for the AFDIL Research Section in its missions of technical development, genetic system characterization, genetic data analysis, and scientific communication. These activities support AFDIL's current and future capabilities in DNA analysis and human remains identification.

The Research Section is committed to keeping AFDIL at the forefront of DNA testing capabilities in the face of rapidly developing technologies; and to address, with basic research, the most significant issues—as they relate to the AFDIL mission—that confront the forensic science community.

Principle research projects:

1. A long-term project funded by the National Institute of Justice (NIJ) to survey the mtDNA genome of many individuals for novel, highly informative SNP sites, develop multiplex SNP assays, validate the SNP assays, and establish reference population databases. This project is ~2/3 complete. Our largest data set refers to US Caucasians, where we have sequenced the entire mtDNA genome from multiple individuals that match each other for any of the 18 most common HV1/HV2 sequence types. The total number of 234 individuals is then resolved by conventional testing into only 18 different types, which together comprise about 20% of the US Caucasian population. We have selected 59 medically neutral SNP sites from outside HV1/HV2 that resolve these 234 individuals into 122 different types, 74 of which are unique within the sample.
These 59 SNP sites have been assembled into 8 separate multiplex panels, each of which is targeted toward specific common HV1/HV2 types. The multiplex SNP panels have been successfully tested using TaqMan and SNaPshot platforms. The assays are sensitive to 1 pg/ml, and reliably detect heteroplasmy at a level of 10% minority component.
2. Completion of data collection from a large mtDNA mutation rate study based on extended pedigrees of European royalty. The entire control region was sequenced for 323 individuals from 49 royal lineages, spanning 686 generational events. The results refine and reinforce AFDIL's previous publication of an unexpectedly high mutation rate in the mtDNA control region. This new study is currently in preparation for publication.
3. Development of a novel dialysis-based demineralization extraction method for DNA recovery from highly challenging bone samples from the National Memorial Cemetery of the Pacific. A full mtDNA sequence was obtained from one sample that gave no results by standard testing methods. Additional testing is ongoing in consultation with scientists from the University of California and Professor Svante Paabo's laboratory staff in Leipzig, Germany.
4. Testing dialysis-based demineralization protocols for extracting amplifiable nuclear STR loci from degraded bones recovered from the Korean war. The new extraction protocols, together with low-copy amplification techniques, produce full nuclear STR reporting from a wide range of Korean War-era skeletal remains. This provides an extremely powerful means for reassociating massively commingled remains that were unilaterally turned over by the North Korean government (K-208). Additionally, it expands the range of potentially useful family reference individuals to include paternal relatives (Y-chromosomal testing, see below), and other extended family members (through biparental comparison of nuclear STRs).
5. Assisting the AFDIL Validation Coordinator in the testing and validation of a commer-

cial Y-chromosomal STR multiplex.

6. Development of a robotic system for high throughput mtDNA control region sequencing. Cycle sequencing set up, thermal cycling, and post sequencing clean-up protocols were developed and tested on the Tecan Genesis 4200 BioRobot. Staff in AFDIL Family Reference Database Section have been trained and are in the final stage of validation.
7. Testing and initial validation of PCR product cloning of forensic mtDNA casework amplicons for analyzing cases with heteroplasmy or mixture.
8. Design and testing of miniprimer set multiplex amplifications of the mtDNA control region from highly degraded skeletal remains. Three new multiplexes result in amplification of the entire mtDNA control region, with amplicon size not exceeding 170 bp. The largest multiplex, a 5-plex, has been successfully tested on a wide range of ancient DNA extracts and is ready for validation. The remaining 2 multiplexes require further optimization, but their component single-plex miniprimer sets are ready for validation. They are extremely sensitive, require a single PCR program, and greatly augment the current suite AFDIL miniprimer sets.
9. Assisting the AFDIL Chief Information Officer and his development staff members in designing statistical and search algorithms for AFDIL's custom LIMS and database program.
10. Investigation of the segregation of an mtDNA mutation over a 3-generation pedigree, and among a range of forensic tissue types.
11. Completion of a new forensic mtDNA database of 101 entire control region sequences from an African population (in preparation for publication).
12. Testing of new short-amplicon STR multiplexes for improved success on highly degraded samples, in collaboration with John Butler, National Institutes of Standards and Technology (NIST).
13. Expansion of AFDIL capabilities for forensic statistical analysis of extended pedigrees through integration of DNView software.
14. Application of phylogenetic analysis for ethnic population inference of mtDNA sequences obtained from remains of terrorists of the 9/11 terrorist attacks on the Pentagon and in Somerset County, Pa.

The Research Section has played an important role in maintaining strong connections between AFDIL and the larger forensic and academic research communities. The section has presented research results at many local and international conferences, often as invited contributors. AFDIL's Chief Scientist, Thomas J. Parsons, PhD, was invited to organize and present a breakout symposium on new developments in mtDNA testing at the 13th International Symposium on Human Identification. Additionally, Dr. Parsons has been very active in consultation with the National Institutes of Justice and the New York City Office of the Chief Medical Examiner regarding DNA identification efforts from the World Trade Center attack. He is a standing member of the WTC Kinship and Data Analysis Panel, which has met bimonthly since the attacks of 9/11. Dr. Parsons, along with AFDIL's Chief mtDNA Technical Leader, Suzanne Barritt, as well as Colonel Smith, is on the Scientific Advisory Board of the International Commission on Missing Persons, currently working for the recovery, identification, and repatriation of the victims of atrocities committed in the former Yugoslavia.

The Research Section has ongoing collaborative projects with the Institute of Legal Medicine, University of Innsbruck, the NIST, Marligen Biosciences, and Massey University, New Zealand.

Additionally, the Research Section frequently consulted with CILHI on interpretation of mtDNA matching data in difficult or complex cases, and coordinated extensively with CILHI on new directions for DNA testing for the identification of unknowns from prior American conflicts.

THE ARMED FORCES REPOSITORY OF SPECIMEN SAMPLES FOR THE IDENTIFICATION OF REMAINS (AFRSSIR)

In 2002, the AFRSSIR accessioned 320,964 DNA reference specimens from 2720 separate collection sites (Army - 1452, Air Force - 291, Navy - 737, Marine Corps - 165, Coast Guard - 75). The Director of Repository Operations conducted collection site visits at 8 facilities to

provide information briefings and evaluate collection compliance.

Accessioned DNA reference specimen inventory at the end of the year totaled 3,906,663. The military has collected specimens from approximately 92% of current servicemember populations. In the past year the repository processed 8 donor requests for destruction of DNA samples and 24 requests for release of specimens. The repository released 133 DNA specimens to AFDIL for human remains identification.

The Director of Repository Operations was the lead AFMES representative to the Tri-State Crematory incident outside of Noble, GA. DNA collection was integrated into the temporary mortuary established by the Disaster Mortuary Operational Response Team. DNA team members processed more than 400 human remains and collected over 370 DNA samples for typing by AFDIL.

The Director of Repository Operations conducted 8 presentations for audiences of more than 800 attendees regarding DNA Repository operations, DNA identification in mass fatality incidents, and DNA evidence for criminal investigators.

PRESENTATIONS

1. February 2002: Little Rock, Ark, Army National Guard State Surgeons Conference, "AFRSSIR operations and program policy," DA Boyer.
2. February 2002: Atlanta, Ga, American Academy of Forensic Sciences 54th Annual Meeting, "DoD DNA Registry's response to terrorist attacks of September 11," DA Lee.
3. February 2002: Atlanta, Ga, American Academy of Forensic Sciences 54th Annual Meeting, Invited Presentation, Mitochondrial DNA Workshop, "MtDNA genome SNP discovery and development for increased forensic discrimination and heteroplasmy detection," TJ Parsons, MD Coble, IH Letmanyi, H Niederstaetter, W Parson.
4. March 2002: Noble, Ga, Disaster Mortuary Operational Response Team (DMORT), "DNA identification in mass fatality incidents," DA Boyer.
5. April 2002: Frederick, Md, Mid-Atlantic Association of Forensic Sciences, "Forensic DNA identification in military aircraft mishaps," SW Jones.
6. April 2002: Ft Leonard Wood, Mo, US Military Police School, CID Advanced Forensics Course, "DNA for criminal investigators," DA Boyer.
7. April 2002: Emmitsburg, Pa, DMORT, "DNA identification in mass fatality incidents," DA Boyer.
8. April 2002: Frederick, Md, Mid-Atlantic Association of Forensic Sciences Conference, "Mitochondrial databases, phylogenetic trees and September 11th," MD Coble, DA Lee, RM Fisher, J DiFrancesco, KB Murga, BC Smith, TJ Parsons.
9. May 2002: Lyon, France, Disaster Victims Identification, International Police, United Nations, "DoD DNA Registry's response to terrorist attacks of September 11," DA Lee.
10. May 2002: Innsbruck, Austria, Invited Seminar, Institute of Legal Medicine, "Biology and forensic applications of human mitochondrial DNA," TJ Parsons.
11. June 2002: Washington, DC, NIJ Grantees Workshop, "The Pentagon and Somerset mishaps—what went wrong, what worked well," DA Lee.
12. June 2002: Washington, DC, Cambridge HealthTech Institute 5th Annual Conference on DNA Forensics, "LISA: a comprehensive enterprisewide laboratory information management system," JA Irwin.
13. June 2002: Washington, DC, Invited Presentation, NIJ DNA Grantees Workshop, "Quick and easy SNP assays to increase the power of discrimination of mtDNA testing," TJ Parsons, MD Coble, IH Letmanyi, RS Hamm, H Niederstaetter, W Parson.
14. August 2002: Charleston, NC, DMORT, "DNA identification in mass fatality incidents," DA Boyer.
15. August 2002: Ft Leonard Wood, Mo, US Military Police School, CID Advanced Forensics Course, "DNA for criminal investigators," DA Boyer.
16. September 2002: Milwaukee, Wis, Midwestern Association of Forensic Sciences, "Terror in the skies after the World Trade Towers: the identification and reassociation of remains from the Pentagon and Somerset terrorist attacks," KB Murga.
17. September 2002: Milwaukee, Wis, Midwestern Association of Forensic Sciences, "The bombing of the USS Cole: the role of DNA in sending seventeen heroes home," KB Murga.
18. September 2002: Atlanta, Ga, CDC, "DNA Repository operations," DA Boyer.

19. October 2002: Phoenix, Ariz, 13th Promega Symposium on Human Identification, "Multiplex mito SNPs: how do we really get there, and what do we do with them?" TJ Parsons, MD Coble, RS Hamm, JL Eyster, IH Letmanyi, H Niederstaetter, W Parson, PM Vallone.
20. October 2002: Phoenix, Ariz, 13th Promega Symposium on Human Identification, "Increasing mtDNA discrimination for common haplotypes: targeting of additional information in the entire mitochondrial genome," MD Coble, R Hamm, JL Eyster, IH Letmanyi, TJ Parsons.
21. October 2002: Phoenix, Ariz, 13th Promega Symposium on Human Identification, "Characterization of mtDNA SNP-typing using real-time PCR," W Parson, H Niederstaetter, MD Coble, TJ Parsons.
22. October 2002: Phoenix, Ariz, 13th Promega Symposium on Human Identification, "Use of magnetic beads in the automation of sequence extension product purification," JL Eyster, N Abbasi, TJ Parsons.
23. October 2002: Phoenix, Ariz, 13th Promega Symposium on Human Identification, "Multiplex real time fluorogenic SNP assays for increasing discrimination of mtDNA testing," RS Hamm, IH Letmanyi, MD Coble, TJ Parsons.
24. October 2002: Phoenix, Ariz, 13th Promega Symposium on Human Identification, "Observed mtDNA substitutions among maternal lineages of the European royalty," JA Thomas, MM Ewing, WA Reitwiesner, TJ Parsons.
25. October 2002: Phoenix, Ariz, 13th Promega Symposium on Human Identification, "The role of DNA identification in military incidents in the war on terrorism in Afghanistan," SW Jones.
26. November 2002: Washington, DC, CODIS, "The identification and reassociation of remains from the Pentagon and Somerset terrorist attacks," KB Murga.
27. November 2002: Louisville, Ky, Association of Military Surgeons of the United States, Exhibit Booth, "DNA identification for 9-11," DA Boyer.

PUBLICATIONS

Kline M, Duewer D, Redman J, Butler J, Boyer D. Polymerase chain reaction amplification of DNA from aged blood stains: quantitative evaluation of the "suitability for purpose" of four filter papers as archival media. *Anal Chem.* 2002;74:1863-1869.

DOD DNA REGISTRY CALENDAR 2002

CONFERENCES

1. 78th Legal Support Program, Long Beach, Calif, 4-7 January 2002.
2. DPMO Family Update, San Diego, Calif, 11-13 January 2002.
3. Casualty Officers Conference, Hilton Hawaiian Village, 14-16 January 2002.
4. Scientific Working Group for DNA Analytical Methods (SWGDM) Meeting, Quantico, Va, 16-17 January 2002.
5. American Academy of Forensic Sciences (AAFS), Atlanta, Ga, 12-16 February 2002.
6. Kinship and Data Analysis Panel (KADAP) for World Trade Center (WTC), Albany, NY, 21-23 February 2002.
7. VFW National POW-MIA Committee, AFDIL, 26 February 2002.
8. DPMO Family Update, Charlotte, NC, 23 March 2002.
9. Region III DMORT Training, 20 April 2002.
10. DPMO Family Update, Portland, Ore, 20 April 2002.
11. WTC mtDNA Working Group, 22 April 2002.
12. NCFS DNA Meeting, Orlando, Fla, 29-30 April 2002.
13. California Association of Criminalists, San Francisco, Calif, 6-12 May 2002.
14. DPMO Family Update, Columbus, Ohio, 17-19 May 2002.
15. ICMP SAB, BiH and Yugoslavia, 18-26 May 2002.
16. American Chemical Society Meeting, George Mason University, Fairfax, Va, 28 May 2002.
17. Molecular Evolution: A Meeting on Evolution, Genomics, and Bioinformatics, Naples, Italy, 13-16 June 2002.
18. National League of Families Meeting, Arlington, Va, June 2002.
19. Cambridge HealthTech Institute, Washington, DC, 26-28 June 2002.
20. NIJ Grantees Conferences, Washington, DC, 25 June 2002.

21. USMC League Meeting, San Francisco, Calif, 8-10 July 2002.
22. SWGDAM, FBI, Quantico, Va, 9-11 July 2002.
23. 5th KADAP, Bethesda, Md, 15-16 July 2002.
24. NCFS Mass Fatality TWG, Orlando, Fla, 17-19 July 2002.
25. Korean/Cold War Annual Government Briefings, Arlington, Va, 26 July 2002.
26. 87th Conference of the International Association for Identification, Las Vegas, Nev, 1-11 August 2002.
27. 5th Annual DoD Personnel Recovery Conference, Arlington, Va, 5-8 August 2002.
28. KDAP Meeting, Rockville, Md, 12 August 2002.
29. DPMO Family Update, Kansas City, Mo, 16-18 August 2002.
30. International Association for Identification, 21 August 2002.
31. International Association Forensic Scientists, Montpellier, France, 2-7 September 2002.
32. 6th KADAP, New York City, NY, 9-10 September 2002.
33. MAFS, Milwaukee, Wis, 16-21 September 2002.
34. GeneCodes, Ann Arbor, Mich, 17-18 September 2002.
35. Systems Biology Approaches to Health Care: Mitochondrial Proteomics Workshop, 17-18 September 2002.
36. The Institute for Genetic Research (TIGR), 17 September 2002.
37. DPMO Family Update, New York, NY, 20-22 September 2002.
38. DPMO Casualty Conference, Ft Belvoir, Va, 23-24 September 2002.
39. CDC Conference on Bloodstain Repositories, Atlanta, Ga, 23-24 September 2002.
40. CJMAO, US Total Army Personal Command, Alexandria, Va, 30 September – 1 October 2002.
41. 4th Science and Law, Miami, Fla, 2-6 October 2002.
42. BioVenture Forum, San Francisco, Calif, 2-6 October 2002.
43. 13th International Symposium on Human Identification, Phoenix, Ariz, 5-11 October 2002.
44. FSS, Birmingham, England, 19-28 October 2002.
45. KADAP-NIJ, 23-24 October 2002.
46. DPMO Family Update, Salt Lake City, Utah, 25-27 October 2002.
47. 30th ASCLD, Tampa, Fla, 26 October 2002.
48. NEAFS, Atlantic City, NJ, 4-7 November 2002.
49. CODIS Meeting Crystal City, Va, 5-8 November 2002.
50. AMSUS, Louisville, Ky, 11-14 November 2002.
51. DPMO Family Update, Tampa, Fla, 15-17 November 2002.
52. NIJ, Washington, DC, 18 November 2002.

VISITORS

1. National League of Families (NLF) Intern, 29 January 2002.
2. Director, Defense Science and Technology Agency, Singapore, 5 March 2002.
3. Israeli Defense Force (IDF), 13 March 2002.
4. Senior Staff, Defense Prisoner of War and Missing Personnel Office (DPMO), 26 March 2002.
5. Army Surgeon General, 4 April 2002.
6. USAF Medical Law Consultants, 20 April 2002.
7. Walther Parsons, University of Innsbruck, Austria, 24 April 2002.
8. US Army/Baylor Graduate Program in Healthcare Administration, 6-9 May 2002.
9. ICRC North American Commission, 14 May 2002
10. Consultant, Norwegian Army Medical Service, 24 May 2002.
11. J-5, Joint Task Force, Full Accounting (JTF-FA), 5 June 2002.
12. Senior Staff, Defense Science and Technology Agency, Singapore, 10 June 2002.
13. Senior Staff, Victoria Forensic Science Centre, Melbourne, Australia, 24 June 2002.
14. Sergeant Major, Casualty and Memorial Affairs Operations Center (CMAOC), 27 June 2002.
15. Ward TV Interview, 16 July 2002.

16. Bloomberg News Interview, 7 August 2002.
17. Senior Staff, Defense Prisoner of War and Missing Personnel Office (DPMO), 7 August 2002.
18. Dr. Gale Christianson, Indiana State University, 12-16 August 2002.
19. Director, National Histocompatibility Laboratory (NHL), Baltimore, Md, 14 August 2002
20. Chief of Laboratory Services, Department of State (DoS), 14 August 2002.
21. Service Casualty Officers, 25 September 2002.
22. US Investigation Services, 26 September 2002.
23. Army Adjutant General (TAG), 2 October 2002.
24. Deputy Commander, JTF-FA, 8 October 2002.
25. Senior Staff, University of Innsbruck, Austria, 3-27 November 2002.
26. Scientific Advisory Board Visit, 14 November 2002.
27. Department of State (DoS), Antiterrorism Assistance, 26 November 2002.
28. Dover AFB Mortuary Team, Exercise, 5-6 December 2002.
29. Michal Kaufman, Israel, 9 December 2002.
30. National Institute of Justice (NIJ), 13 December 2002.

AUDITS/INSPECTIONS

1. American Society of Crime Laboratory Directors/Laboratory Accreditation Board: Annual Internal Inspection, March 2002.
2. Montgomery County Fire Marshall: Annual Walk-Thru, April 2002.
3. Baltimore Corps of Engineer: Annual Walk-Thru, May 2002.
4. DoD DNA Quality Oversight Committee: Annual, May 2002.
5. Department of the Army Security Division, AFRSSIR and Gillette Building, June and December 2002.
6. AFIP Scientific Advisory Board: Annual, June and December 2002.
7. Pre-College of American Pathologists Inspection, September 2002.
8. AFIP Board of Governors: Annual Walk-Thru, September 2002.
9. College of American Pathologists: Annual (Interim), October 2002.
10. Alexander Properties: Annual Walk-Thru, November 2002.

FACULTY POSITIONS/SPEAKERS

1. Federal Bureau of Investigation (FBI) Auditors Course, 8-9 April 2002.
2. George Washington University, "Principles of forensic pathology: DNA," 23 April 2002.
3. Mid-Atlantic Association of Forensic Scientists (MAAFS) at Francis Scott Key Holiday Inn, Frederick, Md, 22-28 April 2002.
4. MtDNA International Training Course, 27 May-7 June 2002.
5. Human Skeletal Remains (Search Recovery and Identification Course), Colorado State University, 2-12 June 2002.
6. George Washington University, DoD Forensic Fellows Presentations, 16 July 2002.
7. George Washington University DNA Course, AFDIL Conference Room, 5 September 2002.
8. George Mason Law School Lecture, Ted Anderson, 30 September - 4 October 2002.
3. Mid-Atlantic Association of Forensic Scientists (MAAFS) at Francis Scott Key Holiday Inn, Frederick, MD, 22-28 April 2002.
4. MtDNA International Training Course, 27 May-7 June 2002.
5. Human Skeletal Remains (Search Recovery & Identification Course), Colorado State University, Co, 2-12 June 2002.
6. George Washington University, DOD Forensic Fellows Presentations, 16 July 2002.
7. George Washington University DNA Course, AFDIL Conference Room, 5 September 2002.
8. George Mason Law School Lecture, Ted Anderson, 30 September - 4 October 2002.

■ GROUP 6

SPECIALIZED SERVICES

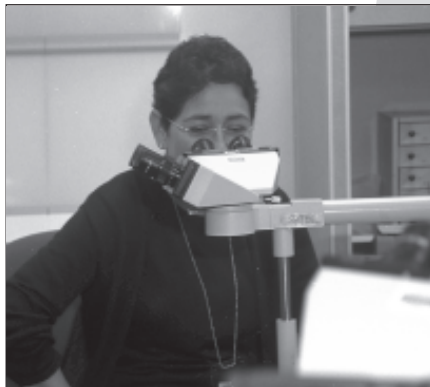
DEPARTMENT OF MEDICAL EDUCATION (DME)

CENTER FOR SCIENTIFIC PUBLICATIONS

EPIDEMIOLOGY, REPOSITORY &
RESEARCH SERVICES

OFFICE OF QUALITY ASSURANCE

TELEMEDICINE





Christopher R. Owner, PhD
Chair
Date of Appointment — 4 August 1997



DEPARTMENT OF MEDICAL EDUCATION

MISSION

The educational mission of the AFIP and ARP is to “carry out educational activities in partnership with government, academic, and private sector organizations and to develop and apply expert information for the benefit of individuals and their health care professionals (AFIP Strategic Plan, 1997). The Department of Medical Education supports Continuing Medical Education (CME) in pathology and radiology and other related medical disciplines by providing specialized information and advanced research and technology in the study of the pathophysiology of disease.

SCOPE

We use numerous approaches to determine how courses are structured and what information to include. First and foremost is the material we glean from our secondary consult service. The AFIP receives over 55,000 cases annually, many of which are difficult diagnostic cases that become resources for our educational activities. This ongoing “dialogue” with the community of pathologists shapes the information selected for both our workshops and didactic programs, to accurately reflect the informational needs of both military and civilian physicians. To augment these data, we also assess scientific advances in the field of pathology and medicine, seek the consensus of expert pathologists and clinicians, solicit feedback from potential and actual attendees at our programs, and monitor the media to determine issues and topics of importance to the public. The effectiveness of these audience-assessment activities can be seen in the evaluation data. The courses we offer cover most of the subspecialties in pathology, including dentistry, veterinary, forensics, and environmental medicine.

AUDIENCE

Our primary audience includes military and civilian pathologists, radiologists, and related subspecialty clinicians in the United States, Canada, and worldwide. Secondary audiences include other physicians, health professionals, and interested ancillary medical support systems.

ORGANIZATION

The department is organized by function and comprises workshop and seminar design and development, resident/fellow programs, text-based education, Web-based instruction, meeting planning, marketing, art and graphics, study sets, audiovisual, and accounting. The department chair reports to the Director of the Center for Advanced Pathology (CAP), Florabel G. Mullick, MD, ScD, SES. The Oversight Committee for Continuing Medical Education oversees the department’s activities.

STAFF – EDUCATIONAL DIVISION

Technical:

Christopher R. Owner, PhD, Chair
Ontee W. Biggs, CMSgt, USAF, Superintendent
Carlos H. Moran, Associate Director
Lewis S. Davis, HM1, USN, Educational Coordinator (Radiology)

Carl Williams, Educational Coordinator (Radiology)
Manpreet Singh, Web Coordinator
James C. Eastep, DVM, Digital Web Developer
Ricky H. Giles, Educational Coordinator (Pathology)
Mark L. Hovland, Educational Coordinator (Pathology)
Stephen W. Huntington, TSgt, USAF, Educational Coordinator (Pathology)
Virginia A. McMillan, Visual Information Specialist

Administrative:

Lisa P. Holmes, Meeting Management
Carolyn Tuchis, Accounts Manager
Kim L. Williams-Chasten, Office Management
René M. Sutton, Marketing Coordinator

Other AFIP/ARP Staff in Support of Mission:

Frank Roberts, Histopathology QA
Estelle Page, Histopathology QA
Mark Sacks, CPR Program (AFIP Physicians and Staff)

Audiovisual:

Willie L. Jefferson Jr, Audiovisual Supervisor
Joseph W. Frederick, Audiovisual Support Technician

Media Center:

Harold I. White, SSgt, USAF (replaced Haydee Velazquez), Study Set Coordinator

Ash Library:

Prem Kalra, Library Consultant
Judith Paige, Library Technician
Daniel Mulholland, Library Technician

MIS Library:

Thomas Gaskins, Archive Technician

ACTIVITY SUMMARY

In 2002, the AFIP and ARP offered 66 programs and 3 virtual conferences to 9,401 pathologists, clinicians, legal medicine professionals, veterinary pathologists, radiologists, dentists, forensic anthropologists, military and civilian residents, and professionals in related disciplines.

Marketing: In 2002, the Marketing Department conducted activities on behalf of 33 seminars and workshops. These marketing activities targeted anatomic and clinical pathologists and radiologists either in practice or serving in residencies. In addition to designing and mailing 150,000 brochures, staff placed numerous advertisements in journals, newsletters, and on Web sites, including the AFIP's Web site, which provides detailed course information and online registration. This year, approximately 31% (13% to 46%) of our registrants came through the Internet.

We are continuing to develop and promote our Medical Education Fund to help defray some of the costs of conducting our programs. The fund seeks grants and exhibitors to help defray the cost of preparing syllabi, producing brochures, and marketing existing courses. We have enlisted support from the Jackson Foundation to help us raise funds from the commercial sector.

Web Education: The DME Web development team includes a Web coordinator (70% FTE), a veterinary pathologist/digital media developer (80% FTE), and a consultant database expert (on an as-needed basis).

The new Web course "Lesions of the Penis and Urethra" was brought online this year to accompany its predecessor, "Bladder," using a new automated credit card charging system that provides immediate access to courses following credit card processing. This system automates examination grading, the collection of course evaluations, tallies of user hardware and software, collection of problem reports, and provides users with constructive feedback for both correct and incorrect answers to quiz/examination questions. Also nearing completion is the first Web-based module ("Esophagus and Stomach") offering CME credit for the completion of an examination covering this and future AFIP tumor fascicles.

In partnership with the Registry of Toxicologic Pathology for Animals, the DME Web team offered, for the 3rd year, 9 Web slide conferences with 400+ paid and 100+ free-trial members. Each conference discusses 4 histopathologic cases in toxicologic pathology. Cases contributed

by participating institutions are first presented as unknowns for preliminary discussion, and then contributors' reports are revealed for further discussion and/or debate. A different expert moderates each conference and participants contribute anonymously to the discussion. These conferences are active for 2 weeks, 24 hours a day.

A free Biostatistics course for pathology residents came online this year, and we continue to offer the Virtual Gastrointestinal Endoscopic Biopsy course, which consists of 5 study sets of 8 cases each. The department provides online versions of the *Journal of Nursing Risk Management* for the period 1998-2002 and *Legal Medicine* from 1992-2002.

AUDIOVISUAL DIVISION

In 2002, the Audiovisual Division, in cooperation with the National Museum of Health and Medicine, installed a digital projection system in Russell Auditorium. The division acquired 2 new portable LCD projectors, making it possible to provide dual computer projection support at CME courses. A future goal is upgrading the optics for the multimedia projectors serving Dart Auditorium and Owen Conference Room. The division supported 38 Weekly Professional Staff Conferences, 2 Scientific Advisory Board meetings, 1 Board of Governors meeting, 10 Scientific Seminars, and 11 Callender-Binford Lectures, as well as:

- The Chemical & Biological Defense in the WRAMC Health Care System Course via satellite transmission to Dart Auditorium
- 8 Time Capture training sessions
- The Bioterrorism Agents and Influenza Lecture
- The Noble Eagle Award Ceremony
- The Practical Nurses Course (WRAMC)
- The Science and Engineering Apprentice Program (summer students)
- Automated Central Tumor Registry (ACTUR) Seminar/Workshop

1. PROPERTY VALUE	
a. \$333,103.60	
b. 113 items listed on hand receipt	
2. AUDIOVISUAL PROPOSED BUDGET	
a. Equipment (new and replacement)	\$24,917.00
b. Supplies	\$800.00
c. Maintenance/repair	\$3,000.00
Total	\$27,717.00
3. A/V OPERATOR SUPPORT REQUESTS	
a. In-house	419
b. CME courses	28
c. WRAMC	32
d. Outside organizations	04
4. A/V EQUIPMENT LOAN REQUESTS	
a. In-house	388
b. CME courses	28
c. WRAMC	36
d. WRAIR	01
e. Outside organizations.....	04
5. AUDIOVISUAL EQUIPMENT ON INDEFINITE LOAN	
a. In-house	12
b. WRAMC	06
6. VIDEO RECORDINGS	05

MEDIA CENTER

1. PUBLIC SERVICES	
a. Sets used by AFIP personnel	86
b. Interlibrary Loans	
Federal	89

Nonfederal	377
c. Ready reference	
Media Center	78
Phone calls	340
2. TECHNICALSERVICES	
a. New sets acquired	
Veterinary Department	7
Histopathology QA Program	17
b. Catalogued study sets	24
Study sets sent to Histolab to be restrained	140
c. Loans to civilians	\$9,122.50

ASH LIBRARY

MISSION

The Ash Library provides scientific and technical publications to Institute staff. Its collections include more than 5,352 books, 323 print journals, and 563 electronic journals.

ACCOMPLISHMENTS

Journal Evaluation: A list of seldom-used journals was evaluated by the library staff, library committee, and faculty. As a result, 90 journals, valued at \$49,945, were dropped, freeing much-needed space.

New Voyager Integrated System: Fully implemented and working satisfactorily.

Interlibrary Loan: In 2002, the library loaned 68 titles and processed 1,153 interlibrary loan requests through National Library of Medicine Docline; turnaround time was usually 24 hours. A new and improved feature is the ability to e-mail requested articles in pdf format directly to researchers.

Tracking Journal Usage: An item bar code was assigned to each journal, which allows for an accurate measure of usage.

ProQuest Online Database: Fully implemented. All registered library users can now access ProQuest Online Database from their home PCs.

Cataloguing: All cataloguing data was transferred from Data Trek to Voyager.

In order to revitalize the library, we started withdrawing books from the collection that are outdated and/or seldom used. We withdrew 761 titles from the collection. In 2003, we will spend \$30,000 to augment and upgrade the book collection.

ASH LIBRARY STATISTICS

a. Circulation	
Checked out:	198
Checked in:	215
b. Interlibrary Loans	
Borrowed:	1,153
Loaned:	68
c. Acquisitions	
Book titles received:	191
Serial titles deleted:	3
Serial titles added:	4
d. Collections	
Total book titles:	5,352
Current print journals:	324
Available online journals:	563

DEPARTMENTAL TRAINING STUDY

	Federal Attendees	Non federal Attendees	International Attendees	Training Days Fed	Training Days Nonfed	Training Days International	Hours
DNA Laboratory	0	0	0	0	0	0	0
Medical Examiners	0	0	1	0	0	125	1,000
Cardiovascular Pathology	9	251	1	9	251	126	3,088
Cellular Pathology	5	6	0	108	261	0	2,952
Center for Advanced Pathology	0	1	0	0	38	0	304
Dermatopathology	13	16	2	330	662	15	8,056
Environmental/Toxicologic Pathology	2	4	0	24	240	0	2,112
GU Pathology/ Nephropathology	5	9	2	76	452	146	5,442
Gyn/Breast Pathology	3	4	3	60	165	48	2,184
Hematopathology	2	2	2	148	137	148	3,464
Hepatic/Gastrointestinal Pathology	2	12	4	43	249	190	3,856
Information Management	0	0	0	0	0	0	0
Infectious Dis, AIDS, Microbiology	0	0	0	0	0	0	0
Legal Medicine	0	0	0	0	0	0	0
Medical Museum	0	2	0	0	76	0	608
Neuropathology/Ophthalmic Pathology	2	27	3	130	1,050	167	10,776
Oral Pathology	3	3	1	378	141	17	4,288
Orthopedic Pathology	1	1	1	20	10	19	392
Otolaryngic Pathology	0	9	0	0	184	0	1,472
Pediatric Pathology	0	2	0	0	76	0	608
Pulmonary/Mediastinal Pathology	1	4	10	9	171	508	5,504
Radiologic Pathology	0	1	1	0	125	125	2,000
Scientific Laboratories	0	0	0	0	0	0	0
Soft Tissue Pathology	1	3	2	10	158	135	2,424
Telepathology	3	0	0	30	0	0	240
Veterinary Pathology	17	17	3	2,912	518	16	27,568
Education	0	1	0	0	38	0	304
SUBTOTAL	78	375	36	4,278	5,002	1,785	88,642
TOTAL	489			11,065			88,642

LONG COURSES

	Federal Attendees	Non federal & International Attendees	Federal Training Days	Nonfederal & International Training Days	Hours
Anatomic Pathology	25	62	175	434	4,872
Basic Sciences ENT	13	9	234	162	3,168
Neuropathology	4	14	232	812	8,352
Neuropathology	5	6	270	324	4,752
Orthopedic Pathology	5	3	50	30	640
Radiologic Pathology	2	245	58	7,105	57,304
Radiologic Pathology	10	243	300	7,290	60,720
Radiologic Pathology	8	248	240	7,440	61,440
Radiologic Pathology	6	215	174	6,235	51,272
Radiologic Pathology	9	235	261	6,815	56,608
SUBTOTAL	87	1,280	1,994	36,647	
TOTAL		1,367		38,641	309,128

SHORT COURSES

	Federal Attendees	Nonfederal & International Attendees	Federal Training Days	Nonfederal & International Training Days	Hours
General Neuropathology	0	1	0	10	80
17 th Washington Neuroradiology Course	22	88	44	176	1,760
40 th Annual Neuropathology Review	15	112	75	560	5,080
Neuromuscular Diseases	0	2	0	20	160
37 th Annual Forensic Identification (Dentistry) & Emerging Technologies	50	91	250	455	5,640
Update on Renal Biopsies in Medical Renal Diseases	5	27	15	81	768
Lymph Node and Extranodal Sites	22	62	44	124	1,344
15 th Annual Forensic Anthropology	6	30	30	180	1,680
Muscle Disorders Course & Workshop	8	23	16	46	496
8 th Musculoskeletal Imaging Weekend	7	26	14	52	528
Uroradiology Review Course	13	54	26	108	1,072
36 th Urological Pathology Course	13	77	65	385	3,600
11 th Descriptive Veterinary Pathology	14	66	70	330	3,200
General Neuropathology	0	4	0	10	100

GROUP 6—Specialized Services

Tumors of the Central Nervous System	1	2	10	20	240
5 th European Descriptive Vet Pathology	0	56	0	280	2,240
Diagnostic Surgical Pathology	8	33	24	99	984
Neuromuscular Diseases	0	22	0	220	1,760
31 st Annual Orthopedic Pathology	22	35	132	210	2,736
13 th Annual GI Surgical Path & Endoscopic Biopsies of the GI Tract	19	97	38	194	1,856
23 rd Annual Hepatopathology: The Interpretation of Liver Biopsies	21	101	63	303	2,928
Ophthalmic Pathology	24	107	120	535	5,240
Infectious Diseases of the CNS	0	1	0	10	80
Thoracic Pathology w/Clinical and Radiologic Correlation	7	37	21	111	1,056
Basic Forensic Pathology	35	48	175	240	2,800
Actualización y Diagnóstico en Patología Quirúrgica	0	73	0	219	1,752
Oral & Maxillofacial Surgical Pathology	6	25	18	75	744

SUBTOTAL 318 1,300 1,250 5,053 80,080

TOTAL 1,618 6,303 80,080

YEAR-ROUND TRAINING/EDUCATION

	Total Attendees	Days	Units	Hours
Legal Medicine Open File	3,505	2,191	5	17,525
RTPA Web Conference	500	2,250	36	18,000
Weekly Professional Staff Conference	1,300	162.5	1	1,300
Histopathology Quality Assessment Program	590	1,253.75	17	10,030
Virtual Gastrointestinal Endoscopic Biopsy	6	7.5	10	60
Online Urologic Pathology Series	16	10	5	80
Callender-Binford	12	3,120	8	24,960

TOTAL 5,929 8,994.75 82 71,955

GRAND TOTALS 9,401 65,006.75 549,805



Leslie H. Sobin, MD, SES

Director

Date of Appointment — 20 September 1987



CENTER FOR SCIENTIFIC PUBLICATIONS

MISSION

The Center for Scientific Publications supports the research and educational aspects of the Institute's mission. Center staff:

- Oversee editorial and publishing issues of Institute-wide interest, review proposals for AFIP-generated publications, provide editorial review of manuscripts, oversee the processing and transmitting of manuscripts to publishers, maintain the Institute's publications records and archives, and collect and distribute reprints of AFIP publications.
- Edit, design, and produce for publication the *Annual Report*, the *Annual Research Progress Report*, the Institute's nonserial publications, the *AFIP Letter*, informational brochures, catalogues, and a variety of institutional documents using desktop electronic publishing.
- Coedit the *AFIP Atlas of Tumor Pathology* and prepare 4-color separation films and black-and-white halftone films for the *Atlas* and the Institute's nonserial publications, generating digitized images for archiving and reproduction.
- Design, coordinate, and produce CD-ROMs of Institute publications, and provide user support via a toll-free line, e-mail, and the Electronic Fascicle Home Page on the World Wide Web (<http://www.afip.org/ef/ef.html>).
- Promote the development of standardized diagnostic nomenclatures and classifications of the World Health Organization (WHO) and the International Union Against Cancer (UICC), coordinate the revision of the WHO's *International Histological Classification of Tumors* and the UICC's *TNM Classification*, and oversee publication of the revised editions.

ORGANIZATION

The center is organized into 4 subdivisions (Editorial, Publications Preparation, Photographic Scanning, CD-ROM Production) and the Office of the Director. The director chairs the AFIP Editorial Committee. The WHO Collaborating Center for International Histological Classification of Tumors is under the Office of the Director.

STAFF

Leslie H. Sobin, MD, Director
Frances W. Card, Visual Information Specialist
Bonnie L. Casey, Scientific Editor, ARP [part-time]
S. Monique Craig, Scanning Assistant/Administrative Assistant, ARP [part-time]
James C. Eastep, DVM, MS, Computer-Aided Instruction Consultant, ARP [part-time]
(D) JoAnn P. Mills, Senior Technical Writer-Editor
Junko Monroe, Multimedia Production Technician, ARP
Linda A. Murakata, CDR, MC, USNR, Associate Editor [part-time]
Michelle Richman, Multimedia Production Technician, ARP
Kenneth Stringfellow, Scanning Technician

AFIP EDITORIAL COMMITTEE

Kamal G. Ishak, MD, PhD
Adrianne Noe, PhD
Florabel G. Mullick, MD
Timothy O’Leary, MD
Leslie H. Sobin, MD

ACTIVITIES

During 2002, noteworthy activities of the center included:

- Publication of 2 new nontumor pathology atlases: No. 1, Endocrine Diseases; No. 2, Lower Respiratory Tract Diseases
- Web-based publication of the 2 new nontumor pathology atlases
- Publication of a CD-ROM version of the AFIP atlases of prostate, testis, and related tumors
- Publication of a smallpox Web site
- Publication of 2 WHO veterinary pathology tumor atlases: Ocular and Otic; and Hematopoietic Tumors

2002 AFIP PUBLICATIONS (LIST ON PAGE 353)

Professional journals	245
Books and chapters.....	40
Abstracts.....	140
Other publications	26
Web-based publications	3

Atlases and nonseries books sold in 2002:

Tumor Atlas	13,072
Nontumor Atlas	3,164
Nonseries	3,760
CD-ROMs sold in 2002 (atlases)	1,104
Images scanned, corrected, and/or proofed	4,481

Impact:

The center produced a number of significant publications in 2002:

- 2 atlases of nontumor pathology in print and on the Web
- 2 tumor atlases in CD-ROM format
- 2 new WHO veterinary tumor classifications

The worldwide distribution of these publications in various media has a great impact on the Institute’s reputation as a major international source of authoritative information, standardized classifications, and nomenclature. The outstanding quality of illustrations, the hallmark of AFIP publications, has drawn continued praise in scientific journal reviews.

The Institute’s WHO Collaborating Center for International Histological Classification of Tumors is collaborating with the International Agency for Research on Cancer to develop the new WHO *Histological Classification of Tumors* series, *Pathology and Genetics of Tumors*.

Close collaboration continues with the International Union Against Cancer on tumor classification and staging (TNM system) and the interaction of staging with nonanatomic prognostic factors.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

National Cancer Institute/NIH, Surveillance, Epidemiology, End Results (SEER) Program,
International Classification of Diseases for Oncology

International:

1. WHO, *International Histological Classification of Tumors*
2. WHO, *International Classification of Diseases for Oncology (ICD-O)*

3. International Agency for Research on Cancer, WHO *Histological Classification of Tumors: Pathology and Genetics of Tumors*
4. International Union Against Cancer, *TNM/Prognostic Factors Classification and Cancer Staging*

Committees:

AFIP Institutional Review Board, F Card

Offices/Committee Memberships in National and International Societies:**LH Sobin**

1. Chair, TNM Prognostic Factors Project of the International Union Against Cancer
2. Head, WHO Collaborating Center for International Histological Classification of Tumors
3. Editor, *International Histological Classification of Tumors*
4. Member, WHO Expert Advisory Panel on Cancer
5. Consultant, American Joint Committee on Cancer
6. Series Coeditor, WHO *Histological Classification of Tumors: Pathology and Genetics of Tumors*

Editorships (Intramural):**LH Sobin**

1. Associate Editor, AFIP *Atlas of Tumor Pathology*, 3rd Series
2. Associate Editor, AFIP *Atlas of Tumor Pathology*, 4th Series
3. Associate Editor, AFIP/ARP *Atlas of Nontumor Pathology*

Official Trips (funding agency in parentheses):**LH Sobin:**

1. January 2002, Lyon, France, WHO/IARC Meeting on Classification of Breast Tumors (WHO)
2. March 2002, Lyon, France, WHO/IARC Meeting on Classification of Female Genital Tract Tumors (WHO)
3. April 2002, Lyon, France, WHO/IARC Meeting on Classification of Soft Tissue and Bone Tumors (WHO)
4. April 29-May 3, 2002, Geneva, Switzerland, TNM Project Meeting, International Union Against Cancer (UICC)
5. May 2002, New York, NY, WHO/IARC Preparatory Meeting on Pathology and Genetics of Endocrine Tumors (WHO)
6. July 2002, Oslo, Norway, International Cancer Congress (UICC)

PUBLICATIONS**Books:**

1. Lloyd RV, Douglas BR, Young WF. *Endocrine Diseases*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2002. Series 1, Fascicle 1, *Atlas of Nontumor Pathology*.
2. Travis WD, Colby TV, Koss MN, Rosado-de-Christenson ML, Muller NL, King TE. *Non-Neoplastic Disorders of the Lower Respiratory Tract*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2002. Series 1, Fascicle 2, *Atlas of Nontumor Pathology*.
3. Valli VE, Jacobs RM, Parodi AL, Vernau W, Moore PF. *Histological Classification of Hematopoietic Tumors of Domestic Animals*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2002. Series 2, vol VIII, WHO *International Histological Classification of Tumors of Domestic Animals*.
4. Wilcock B, Dubielzig RR, Render JA. *Histological Classification of Ocular and Otic Tumors of Domestic Animals*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2002. Series 2, vol IX, WHO *International Histological Classification of Tumors of Domestic Animals*.

CD-ROMs:

1. Ulbright TM, Amin MB, Young RH. *Tumors of the Testis, Adnexa, Spermatic Cord, and Scrotum* [book on CD-ROM]. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 25, *Atlas of Tumor Pathology*

(2002).

2. Young RH, Srigley JR, Amin MB, Ulbright TM, Cubilla AL. *Tumors of the Prostate Gland, Seminal Vesicles, Male Urethra, and Penis* [book on CD-ROM]. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 28, *Atlas of Tumor Pathology* (2002).

Web-Based Publications:

1. Lloyd RV, Douglas BR, Young WF. *Endocrine Diseases*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2002. Series 1, Fascicle 1, *Atlas of Nontumor Pathology*.
2. Travis WD, Colby TV, Koss MN, Rosado-de-Christenson ML, Muller NL, King TE. *Non-Neoplastic Disorders of the Lower Respiratory Tract*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2002. Series 1, Fascicle 2, *Atlas of Nontumor Pathology*.
3. Wear DJ, Klassen-Fischer MK, McEvoy PL, Meyers WM, Nelson AM, Neafie RC, Rodriguez J, Casey BL, Richman M, Tuur-Saunders SM, Lee W, Thompson LDR, Mena H, Shirley AE. *Smallpox*. A joint production of the Department of Infectious and Parasitic Diseases Pathology, Center for Scientific Publications, Department of Dermatopathology, Department of Endocrine & Otorhinolaryngic/Head-Neck Pathology, Department of Neuropathology, and the Division of Visual Information.

Other Publications:

1. *Armed Forces Institute of Pathology Annual Report 2000*. Washington, DC: Armed Forces Institute of Pathology; 2002.
2. *Armed Forces Institute of Pathology Annual Report 2001*. Washington, DC: Armed Forces Institute of Pathology; 2002.
2. Squazzo K, Card F, Casey BL, Stringfellow K. ARP/AFIP 2003 Calendar. Washington, DC: American Registry of Pathology; 2002.

GOALS

1. Assist in the development of military and civilian health care leaders and staff.
2. Provide high-quality educational materials to help pathologists and clinicians recognize and understand diseases, and thus excel in a changing world.
3. Provide standardized classifications and nomenclatures that will facilitate communication among health care workers.



Francis Gannon, MD
Chair
Date of Appointment — 1 November 2001



Annette R. Anderson, MS, RHIA
Administrator
Date of Appointment — 14 November 1994



DEPARTMENT OF REPOSITORY AND RESEARCH SERVICES

Sam Van Horn
Administrative Assistant
Date of Appointment – 28 May 2002

MISSION

The Department of Repository and Research Services provides administrative support to the Center for Advanced Pathology in achieving the Institute's objectives in consultation, education, and research. The department's main functions are as follows:

1. Maintaining the AFIP Repository, consisting of over 2.8 million case files and associated paraffin blocks, microscopic glass slides, and formalin-fixed tissue specimens.
2. Receiving and accessioning case materials.
3. Receipting for all express and courier mail and providing a case pick-up and delivery service throughout the Institute.
4. Responding to outside requests for release of medical information and pathologic materials.
5. Coding and entering pathologic diagnoses and case demographic data into the Institute's research database.
6. Performing administrative quality review of case files following final report.
7. Obtaining patient follow-up information for clinicopathologic correlation studies.
8. Conducting periodic quality assurance audits to ensure case record completeness, the integrity of the research database, and the accurate tracking of case materials.
9. Coordinating research protocol administrative requirements, including review, approval, and monitoring of research activities by the various Institute research-related committees, including the Institutional Review Board (IRB), the Institutional Animal Care and Use Committee (IACUC), the Research Committee, and the Biosafety Committee.
10. Publishing the Institute's Annual Research Progress Report, periodically updating other research-related publications, and preparing reports as required for outside monitoring agencies.
11. Maintaining a repository of pathologic materials from closed military medical facilities in accordance with applicable DoD regulations and federal statutes.
12. Serving as Institute Coordinator for the Partnership Program with Rock Terrace High School, Rockville, Md.
13. Providing budgetary monitoring and policy guidance for the DoD Automated Central Tumor Registry (ACTUR).

ORGANIZATION

The department is organized into 5 entities:

1. Office of the Chair
2. Research Services Division
3. Case Materials Accountability Division (CMAD)
4. Records Repository
5. Materials Repository

OFFICE OF CHAIR

All data pertaining to Dr. Gannon's consultative, educational, and research efforts in 2002 are included in the annual report for the Department of Orthopedic Pathology, for whom he serves as a credentialed pathologist.

During 2002, significant time and effort went into fully developing the case processing re-engineering model, as approved by the Case Re-engineering Committee. By the end of the year, this model was essentially in place with 4 fully functioning CMAD clusters and a Triage Manager. One cluster is currently in operation on the second floor of Building 54; another is at the Gillette Building. Two clusters, operating on the ground floor of Building 54, support designated departments and are cross-trained to support Triage Services and other clusters. The concept has proven successful and is receiving kudos for its customer service orientation.

Dr. Gannon was appointed Contracting Officer Technical Representative (COTR) for a \$3M contract with Information Manufacturing Corporation (IMC), awarded in May 2002, to inventory the materials currently on file as part of the Base Closure Repository and to image the pathology and related reports from 4 of those bases. By the end of the year, the inventory was 75 percent complete and 2 of the bases had been imaged. The information gained from this contract will be used to issue follow-on contracts for further imaging projects within AFIP.

The Institute's long-standing relationship with Rock Terrace High School continued in 2002. Approximately 15 students worked at the Institute as volunteer student aides, paid part-time workers, and summer hires. Most of the students worked in the Materials Repository Division, the Case Materials Accountability Division, and the Records Repository Division. The students continued their labor-intensive project of inventorying case folders within the Records Repository and updating the PIMS locator system. They also assisted in breaking down bulk return of slides into appropriate groupings for acknowledgement and filing. During the summer, the students also assisted in shredding a large volume of documents.

Significant strides were made in 2002 to further the concept of a central registry for the DoD Automated Central Tumor Registry (ACTUR) and improving the integrity of the ACTUR database. For instance:

- For the first time, AFIP totally managed all arrangements and the registration process for the very successful annual training conference for DoD Tumor Registrars in Nashville, Tennessee in May 2002.
- We issued a contract to Certified Traveling Registrars to assist in eliminating the case abstracting backlog at 7 military medical treatment facilities throughout the US, comprising over 2,500 cases.
- We placed an order for purchase of the IMPATH central registry software currently being customized to DoD specifications. Space for the central registry was allotted at AFIP and furniture and equipment purchased.
- We developed a draft DoD directive regarding the establishment of the central repository at AFIP and the mandated use of ACTUR throughout the military health system.
- The service tumor registrars staffed an ACTUR exhibit at the 2002 Tricare Conference in Washington, DC, and at the annual meeting of the North American Association of Central Cancer Registries (NAACCR) in Toronto, Canada, in June 2002.

RESEARCH SERVICES DIVISION

MISSION

The Research Services Division supports the mission of the AFIP through the following activities:

1. Reviewing and processing protocols and educational projects submitted by AFIP staff for approval and funding.
2. Ensuring protocol administrative requirements are met and maintaining official protocol files.
3. Coordinating activities of the AFIP Research Committee, Institutional Review Board (IRB), Biosafety Committee, and Institutional Animal Care and Use Committee (IACUC).
4. Performing annual protocol reviews, conducting semiannual laboratory animal facility inspections, publishing meeting minutes, preparing committee action documents and notices to investigators, and preparing required reports for various accrediting and oversight organizations.
5. Monitoring the status of conditionally approved projects and publishing a monthly status report of all active protocols within the Institute.
6. Coordinating publication of the AFIP Annual Research Progress Report and the Institute's Annual Report to Congress on Laboratory Animal Care and Use.

STAFF

Annette R. Anderson, MS, RHIA, Associate Chair
Chonte' Long, Secretary

ACTIVITIES

In 2002, the Research Program included 290 in-house projects, extramural grants, research contracts and agreements. This is a slight decrease from the 293 in 2001 and the 312 in 2000, reflecting the decreasing trend in available dollars. At the end of 2002, there were a total of 45 active educational projects, a slight increase from last year's total of 43. Following are reports from each research-related committee:

Institutional Animal Care and Use Committee (IACUC): The committee met 7 times in 2002, reviewing 14 new protocols requesting the use of laboratory animals and 5 major amendments to existing protocols. The slight decrease in workload over the previous year was largely due to the shutdown of the BSL-3 animal rooms for more than half the year during the fifth floor renovation project. The IACUC chair and the DLAM A chief approved a number of minor amendments throughout the year. Semiannual inspections of the laboratory animal facilities were conducted in April and November 2002. In October 2002, Dr. Gary Ellis, long-term chair of the IACUC, retired and was replaced by COL Sumitra Parekh.

Institutional Review Board (IRB): The board met 8 times in 2002, granted 23 requests to extend educational project approvals for an additional year, and approved 8 new educational project efforts. It reviewed and approved 13 protocols under the expedited review process, and reviewed and approved 22 protocols at full committee meetings. The IRB chair granted 2 exemptions from IRB review. The board conducted 51 annual reviews of existing protocols, a significant decrease from the previous year, mainly due to funding issues and new requirements for investigators to pursue more military-relevant research. The board was also designated to serve in the dual capacity as the Health Insurance Portability and Accountability Act (HIPAA) Privacy Board and received training throughout the year for these additional responsibilities.

Biosafety Committee: The committee met only once in 2002. With the shutdown of the BSL-3 animal rooms, no new research protocols were submitted requiring Biosafety Committee review. The committee concentrated on reviewing new standard operating procedures for the BSL-3 laboratories when they came back up. The committee will be restructured in 2003 to reflect the increased monitoring requirements as a result of the Biosurety Program and the opening of the new and renovated laboratories.

Research Committee: The committee met 4 times in 2002 and reviewed and approved 36 new protocols under expedited review and approval procedures. It conducted formal committee reviews of 31 protocols. Again, this was a significant decrease in workload from the previous year, largely due to funding issues regarding the various protocols and the Institute's renewed emphasis on more military-relevant research.

Due to the upcoming changes in protocol review and approval procedures caused by a decrease

in funding and changes in the Institute’s organizational structure, the Research Services Division held off revising research-related forms and regulations and will be publishing all new guidance in 2003.



Myra A. Moxley
Chief, Case Materials Accountability Division
Date of Appointment – 12 October 1993

Michelle Block
Chief, Case Receiving and Quality Review Division
Date of Appointment – 1 December 2001



CASE MATERIALS ACCOUNTABILITY DIVISION

MISSION

The Case Materials Accountability Division (CMAD) is responsible for the receipt and accessioning of all pathology cases submitted for consultation, education, and research from the Department of Defense and other federal agencies, including the Department of Veterans Affairs, and from civilian pathologists throughout the United States and the world. The division is also responsible for the receipt of all express and courier mail during duty hours, and runs a messenger service that picks up and delivers pathologic case materials and packages throughout the Institute several times daily.

STAFF

- Courtney Forbes – Triage Manager (ARP)
- Rosetta Jackson – Lead Medical Records Technician, Gillette CMAD
- Gloria Countiss – Lead Medical Records Technician, Case Receiving Quality Review
- Norma Garey – Lead Medical Records Technician, Case Receiving Quality Review
- Adrian Bingham – Lead Medical Records Technician, 2nd Floor CMAD
- Kenneth Millner – Lead Medical Records Technician
- Geraldine Key-Lovett – Medical Records Technician
- Irene Ford – Medical Records Technician
- Velda Jones – Medical Records Technician
- Constance Balthrop – Medical Records Technician
- Travis Jones – Medical Records Technician
- Andrienne Newton – Medical Records Technician
- Janice Robinson – Medical Records Technician
- Diane Turner – Medical Records Technician
- Samira Price – Medical Records Technician (ARP)
- Donnita Hodges – Medical Records Technician (ARP)
- Tiloria Brooks-White – Medical Records Technician
- Jackie Martinez – Medical Records Technician (ARP)
- Terry Best – Medical Records Technician (ARP)
- Sharon Verner – Medical Records Technician (ARP)
- Stephen Banda – Accessions Clerk
- Joel Ryerson – Accessions Clerk
- Aaron Askew – Messenger (ARP)
- Ricardo Moore – Messenger (ARP)
- Ronald Reese – Messenger (ARP)
- Anna Semiah – Messenger (ARP)

ACTIVITIES

The division's workload statistics for 2002, compared to 2001, are as follows:

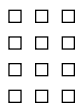
Cases Accessioned	2002	2001
Federal	36,251	32,866
Civilian	24,431	23,125
Total	60,682	55,991

During 2002, the division saw many changes. For much of the year it operated as 2 separate divisions, as the old Receiving and Accessions Division began its transformation into the Case Materials Accountability Division. In January 2002, the 2nd Floor CMAD was implemented. Policies and procedures were developed and departments briefed. Toward the end of 2002, a CMAD cluster was started in the Gillette Building in Rockville, Maryland. Both CMAD clusters proved so popular that 2 additional CMADs were created with the remaining personnel at the end of the year to complete the transformation, even though space to separate the 2 groups was not yet available.

Additionally, a position of Triage Manager was created to supervise the delivery service and oversee the division's increased responsibilities for receipt of all courier and express package delivery during duty hours. The AFIP front desk now only accepts such deliveries after duty hours. Beginning in the spring of 2002, the division was also tasked with opening all mail, even if addressed to other areas, and to immediately accessioning all case material. The Triage loading dock area was remodeled and an electric loading dock door installed to accommodate the increased delivery traffic. The case delivery service was also expanded this year to include delivery and pick-ups to the various AFIP laboratories. These deliveries are also tracked via the bar code scanning system.



Mercedes E. Russell
Chief
Date of Appointment – 2 October 1995



RECORDS REPOSITORY DIVISION

ACTIVITIES

The Records Repository Division is organized into 2 branches: the Records Archives Branch, which includes the Medical Information Release Office, and the Pathology Data Branch. The branches work closely together and many of the personnel have been cross-trained in each other's functions.

Record Archives Branch:

- Receives, stores, maintains, and retrieves all forms (microfiche, optical disk, paper) of pathologic case files.
- Scans selected pathologic case files into an optical disk imaging system.
- Retrieves previously accessioned case folders in response to the accessioning of a new case sequence on the same patient.
- Returns original x-rays to contributors.
- Processes all requests for release of information from the pathologic case files.
- Processes all requests for loan or return of submitted pathologic materials (slides, paraffin blocks, or wet tissue specimens).

- Tracks submission of all Department of Veterans Affairs claims cases.
- Rotates into the Triage function as assigned.
- Assists in receiving and accessioning Radiology Class cases and Environmental Pathology Registry cases (KUW, POW, and Agent Orange).

Pathology Data Branch:

- Abstracts, codes, and classifies final diagnoses of accessioned cases according to SNOMED International.
- Retrieves demographic and diagnostic data from the research database to assist Institute staff in their research and teaching endeavors.
- Obtains patient follow-up information in support of approved clinicopathologic correlation or descriptive pathology studies.
- Contacts contributing pathologists, hospitals, tumor registrars, patients, military records centers, and clinicians to obtain complete information.
- Prepares search requests to forward to the National Death Index (NDI), including NDI Plus, at the request of investigators.
- Rotates into the Triage function as assigned.

RECORD ARCHIVES BRANCH/MEDICAL INFORMATION
RELEASE OFFICE

STAFF

Louise Matthews – Lead Medical Records Technician
Eva D. Duncan – Medical Information Release Specialist
Shirley Shields – Medical Records Technician
Raymond Riley – Medical Records Technician
Lenora Vaughn – Medical Records Technician
Pamela Poteat – Medical Records Technician
Serita Hewitt – Medical Records Technician
Glenda Taylor – Medical Records Technician (ARP)
Virginia Walker – Student Aide

ACTIVITIES

The division’s workload statistics for 2002 compared to 2001 are as follows:

Workload Factor	2002	2001
Folder/Materials Actions Received	81,872	102,646
Retrieval/Sent Actions	12,872	15,173
Information Release Requests	1,819	1,627

The decrease in workload for filing and retrieval actions for this branch reflects the decrease in research activity previously reported. To offset this decrease in workload, personnel from the Records Repository were thoroughly trained in the Case Triage function and participate in these case processing tasks daily. In addition, a number of personnel were cross-trained to accession special study cases, a function that has become part of their daily activities. Beginning in 2003, the division will be responsible for accessioning all Radiology Department Class cases.

Because of our decreasing space, Records Repository personnel packed some records and sent them to storage at the Forest Glen Annex. Division personnel participated in the quality assurance review of the imaging contract with Information Manufacturing Corporation (IMC). Personnel assisted in comparing the imaged documents against the originals on-line and documented any errors.

PATHOLOGY DATA BRANCH

STAFF

Toni Dickens – Lead Medical Records Technician
 Janice Powell – Medical Records Technician
 Terry Lloyd – Medical Records Technician
 Tammie Miles – Medical Records Technician
 Jacqueline Pinnix – Medical Records Technician
 Celeste Brannon – Medical Records Technician (VA)
 Frances Wise – Medical Records Technician (VA)
 Andre Thornton – Data Quality Technician (ARP)

ACTIVITIES

The Pathology Data Branch's workload for 2002 as compared with 2001 is as follows:

Workload Factor	2002	2001
Cases Uploaded	58,709	75,138
Data Retrievals	293	331
Studies in Follow-up	4	3

During 2002, Pathology Data Branch personnel virtually eliminated the backlog that had accumulated during the PACAMS crash in 1999, and as a result of the large influx of uncoded records received during departmental case materials inventories in 2000. The branch assists in Case Triage functions on a daily basis, and with other case accessioning activities upon request.

The branch also played a significant role in a special audit concerning the implementation of CPT-4 coding. Our audit determined that the departments were often under-coding many of the cases, which, if not corrected, could result in a significant loss in reimbursements to the Institute.



Kenneth A. Rawley
 Chief
 Date of Appointment – 11 April 1982



MATERIALS REPOSITORY DIVISION

MISSION

The Materials Repository Division processes, stores, and retrieves accessioned formalin-fixed tissue, microscopic glass slides, and paraffin blocks in support of the Institute's consultation, education, and research missions. In addition, a tissue-grossing laboratory is maintained for use by Institute staff. The division also maintains a repository of pathologic materials and reports from closed military medical facilities. The division maintains a storage area within Building 54, along with the central grossing laboratory. It also maintains 2 15,000-square-foot warehouses at the Forest Glen Annex of Walter Reed Army Medical Center in Silver Spring, Maryland.

STAFF

Alfonzo Riddick – Materials Handler Warehouse Supervisor

- Gregory Corbin – Materials Handler Work Leader
- Thelma P. Best – Materials Handler
- Ronald L. Duell – Materials Handler
- Wayne Hamilton – Materials Handler
- Woodrow Williams – Materials Handler
- Willie Lovett – Materials Handler
- Della M. Owens – Materials Handler
- Larry Middleton – Materials Handler
- James C. Stinney – Materials Handler
- Audrey E. Tinker – Materials Handler
- Marvin L. Alston – Materials Handler/Driver
- Jennifer Johnson – Materials Handler
- Kendrick Summers – Materials Handler
- John McClenny – Materials Handler
- Douglas Underwood – Materials Handler
- Leroy Edmunds – Materials Handler (ARP)
- Ronnie Payne – Materials Handler (ARP)
- Tryone Connie – Materials Handler (ARP)
- Brian Salewski – Materials Handler Clerk (Rock Terrace)
- Bobys, Stephen – Materials Handler Clerk (Rock Terrace)

ACTIVITIES

The division’s workload statistics for 2002 as compared to 2001 are as follows:

<i>Workload Factor</i>	<i>2002</i>	<i>2001</i>
Cases Received for File	81,872	112,034
Cases Forwarded	12,872	15,025

The decrease in workload for this division reflects the decrease in research activity, as well as the completion of the departmental inventories in 2001. We anticipate that with the implementation of the Health Insurance Portability and Accountability Act (HIPAA) in 2003, we will see an increase in case materials being returned to both the Materials and Records Repositories.

During 2002, repository personnel assisted in oversight of the imaging contract with IMC, inspecting and verifying a random one percent of the Base Closure materials inventory results, and certifying shipments of records for imaging to the IMC imaging facility at Rocket Center, West Virginia. Personnel also made space for the Walter Reed Army Medical Center to temporarily store some of their materials at the Forest Glen Annex, and assisted the Department of Legal Medicine in identifying and ensuring the appropriate disposition of some of their older case folders.



Frank J. Roberts
Quality Assurance Coordinator
Date of Appointment — 19 January 1993



OFFICE OF QUALITY ASSURANCE

MISSION

The Office of Quality Assurance oversees the Institute's quality assurance, risk management, and residency programs accredited by the Accreditation Council for Graduate Medical Education (ACGME).

STAFF

Frank J. Roberts, Quality Assurance Coordinator
Nicole Jenkins, Health System Specialist
Estella Page, Office Automation Clerk

ACTIVITIES

To accomplish its mission, the Office of Quality Assurance engages in a variety of management and oversight activities:

- Monitors Institute compliance with DoD's Clinical Laboratory Improvement Program and the accreditation requirements of the College of American Pathologists (CAP) and the ACGME, as well as the Department of the Army and the AFIP quality assurance and graduate medical education regulations.
- Serves as AFIP liaison with the Department of Veterans Affairs (VA) Diagnostic Services quality assurance staff and manages the AFIP/Military/VA Histopathology Quality Assessment Program (HQAP), the VA Cytopathology Proficiency Testing Program, and the Systematic External Review of Surgical Cases Program (SERS).
- Manages and coordinates the AFIP American Red Cross volunteer programs. The quality assurance coordinator is the administrator of the Volunteer Program and represents the AFIP on WRAMC's American Red Cross Advisory Council. During 2002, 20 individuals volunteered over 5,661 hours.
- Maintains a reference library containing publications from CAP, National Committee for Clinical Laboratory Standards, and Occupational Safety and Health Administration standards.
- Manages the medical surveillance and respirator protection programs for American Registry of Pathology contract employees.
- Reviews annually and updates as needed AFIP Regulation 40-8, Veterans Affairs Pathology Review Program, AFIP Regulation 40-68, Quality Assurance Administration, and AFIP Regulation 351-2, Policies and Procedures for the Administration of Graduate Medical Education.
- In coordination with the Office of Safety Management, reviews and updates annually the Institute's bloodborne pathogen exposure control and chemical hygiene plans. The office also instructs Institute staff in the use of universal precautions and protection against bloodborne pathogens, as required by the Occupational Safety and Health Administration (OSHA). Office staff conduct annual training to comply with OSHA's Laboratory Safety Standard and CAP fire extinguisher training requirement.

- Provides senior staff members with statistical data on case accessioning, management, and trends, as requested.
- Manages an external peer-review program with the Brazilian Society of Pathology, State of Sao Paulo. On a bimonthly basis, between 12 to 14 cases are sent to the AFIP for in-house review, and 6 cases per year are sent to Brazil for their review.
- Four Histopathology Quality Assessment Program (HQAP) cases are assembled and mailed quarterly to all military and VA medical centers/hospitals reviewing surgical cases. In 2002, 583 military and VA pathologists were awarded in approximately 9,483 hours of CME credit for participation in the program.
- On a biweekly basis, 5 cytopathology proficiency testing cases are mailed to 40 participating VA medical centers (all participating VA medical centers receive one mailing per quarter).
- The office automation clerk serves as timekeeper and liaison for the 14 VA employees assigned to the AFIP.
- The office mails complementary copies of newly published AFIP/ARP fascicles to active duty military pathologists. In January, *Atlas of Nontumor Pathology, Endocrine Diseases* was mailed. In October, *Atlas of Nontumor Pathology, Non-Neoplastic Disorders of the Lower Respiratory Tract* was mailed.
- In May, office staff participated in the internal review of the Neuropathology Residency Program.
- In September, the office organized and coordinated the AFIP's interim CAP accreditation inspection, and participated in the internal review of the Selective Program in Pathology (Pulmonary Pathology) Residency Program.

MEETINGS

Office staff attended the following professional meetings and courses in 2002:

1. February/March: Chicago, Ill, Accreditation Council for Graduate Medical Education Workshop: Mastering the Accreditation Process, N Jenkins.
2. July: College of American Pathologists LAP Audio Conference on Surgical Pathology, N Jenkins, F Roberts.
3. August: Washington, DC, HIPAA Compliance: Understanding and Implementing the Privacy Regulations in the District of Columbia, F Roberts.
4. November: Centralized Credentials Quality Assurance System, Risk Management Training, N Jenkins.
5. December: Washington, DC, WRAMC Leadership Education and Development Course, F Roberts.

GOALS

1. Make the Histopathology Quality Assessment Program available to federal and civilian pathologists via the Internet.
2. Zero citations during the AFIP's ACGME Institutional Review, April 2003.
3. Zero deficiencies during AFIP's CAP accreditation inspection, October 2003.



Bruce H. Williams, DVM, DACVP
Chair
Date of Appointment — 1 October 1997



DEPARTMENT OF TELEMEDICINE

MISSION

The Department of Telemedicine supports the missions and strategic goals of the Armed Forces Institute of Pathology and the American Registry of Pathology by evaluating and deploying emerging telecommunications technology within the Institute. The department maximizes the cost-effectiveness, speed of delivery, and quality of health care services and educational opportunities provided by the AFIP, and serves as a fertile testbed for new and innovative uses of emerging technology.

STAFF

Medical:

Bruce H. Williams, DVM, DACVP, Chair

Administrative:

Daniel R. Butler, HM1, Systems Administrator

Roderick F. Herring, Technical Support Services Specialist

David Draley, Webmaster

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	105
Federal (VA)	43
Civilian	170
Total	318

Caseload increased by 22% over 2001. Average turnaround time was 3.4 hours. For the first time, real-time telemedicine consultation, in which an AFIP consultant operates a microscope at a distant facility, made up a significant portion (10%) of the annual workload. These numbers show that we are reaching our target demographic. Military cases increased 230% over the previous year, VA cases by 375%. We saw a concomitant decrease in civilian cases in 2002 as we sought 100% reimbursement for services rendered.

Impact:

The AFIP's electronic consultation program continues to be the largest of its kind, as well as the most efficient in terms of case turnaround time. The telemedicine program provides pathology consultation in near- or real-time, impacting at point of care and making significant contributions to patient care. Contributors primarily operate in small independent laboratories with 1 or 2 pathologists, often without recourse to other consultative services.

In 2002:

- AFIP became the primary consultant in the Army's real-time telepathology endeavor,

with 6 MTFs receiving robotic microscopes, and 10 additional installations scheduled for early 2003. This technology allows AFIP consultants to operate microscopes at remote sites, viewing any field on the slide at any magnification. Real-time systems allow for increased concordance between diagnoses rendered on electronic and traditional consultations. AFIP and WRAMC staff members have coordinated installation and troubleshooting duties on the new systems.

- The department deployed the first 2 volumes of the online edition of the AFIP Non-Tumor Fascicle (Endocrine and Pulmonary Diseases). The electronic version of the Institute's flagship publication provides functionality that is previously unseen in electronic textbooks, and over 500 subscribers have established online accounts. This prototype provides all of the information covered in the print version, with enhanced search capabilities and links to the NLM Medline database for all references. The online version results in considerable cost savings over current electronic fascicles, and requires less preparation time than comparable print versions.
- The department received funding through the Cooperative Enterprise Registry to expand the image-enabled reporting project within the Institute. To date, over 580 image-enabled reports have been distributed to contributors. Five digital cameras were distributed to pathologists in the departments of Hepatic and Gastrointestinal Pathology, Orthopedic Pathology, Oral and Maxillofacial Pathology, Endocrine and Otorhinolaryngic/Head-Neck Pathology, and Neuropathology. Over a 4-6 month period, we will be analyzing the impact of capturing images and incorporating them into the consultation reports on the pathologists' workflow, as well as surveying AFIP contributors on the benefits of doing so.
- The department received its quadrennial review by the Scientific Advisory Board. The committee enthusiastically endorsed maximum support for expanding the department's capabilities. Recommendations included critical personnel actions, expanding security training for department personnel, and increasing the use of real-time and virtual slide systems in distance learning and electronic publishing activities.

EDUCATION

Presentations and Seminars: Department staff made 8 presentations in 2002, for over 1,850 contact hours. Dates and titles are listed at the end of this report.

Courses: Department staff participated in 8 courses in 2002.

Educational Aids: Department staff provided updates or original design to 26 AFIP Web sites, provided extensive content to 6 AFIP sites, and e-commerce functionality to 3 Web sites. Web design and database development were initiated and/or completed for 5 distance learning activities.

RESEARCH

Publications: Department staff published 7 journal articles in 2002. Complete bibliographical data appear at the end of this report.

Projects: The department had 1 active research protocol in 2002: UBYG – Telepathology Consultation at the AFIP, culminating in 4 peer-reviewed articles in 2001, one in 2002 (in press, *Human Pathology*), and providing raw data for a sixth, to be completed in 2003. The department chair completed research on a 5-year project on coronavirus infection in ferrets and published the results in a prestigious veterinary medical journal. Additional investigation is ongoing as to the role of this virus in inflammatory bowel disease in ferrets, as well as a range of other projects on ferret liver neoplasia, lymphoma, and smooth muscle neoplasms.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Department of Pathology, WRAMC, Feasibility study of real-time pathology consultation
2. NIAAA, NIH, Cyclocreatine in rat hepatocarcinogenesis model
3. NIAAA, NIH, Modulation of iron metabolism in mouse macrophages by cytokines
4. NCI, Familial testicular neoplasia study

Civilian:

1. ARP, Online Fascicles of Tumor Pathology
2. American Telemedicine Association, Telemedicine Special Interest Working Group

3. Illumea Corporation, Feasibility study of real-time pathology consultation
4. Aperio Inc., Feasibility study of virtual slide scanning in consultative practice
5. Animal Medical Center, New York, NY, Estrogen and progesterone receptors in ferret adrenal leiomyosarcomas

International:

1. UICC-TPCC Collaboration Center, Berlin, Germany, WHO second opinion electronic consultation
2. Danish Veterinary Institute, Aarhus, Denmark, Immunophenotyping of ferret lymphoma

Interdepartmental:

1. Department of Cellular Pathology, Telecytology
2. Department of Hematopathology, Telehematology
3. AMS, Image-enabled reporting (integration with PIMS)
4. AMS, Online accessioning
5. Department of Genitourinary Pathology, Familial testicular neoplasia
6. Department of Medical Education, Virtual slide usage in distributed learning

Committees:

Editorial Boards:

Veterinary Pathology, BH Williams

Manuscripts Reviewed: Members of the department reviewed 6 articles for the following professional journals:

1. *Veterinary Pathology*
2. *Journal of Herpetological Medicine*

Offices/Committee Memberships in National or International Societies:

Senior Vice President, C.L. Davis Foundation for the Advancement of Veterinary Pathology, BH Williams.

New Missions:

1. Virtual Slide Usage for Archival Storage
2. Virtual Slide Usage for Distance Learning CME

Official Trips (funding agency in parentheses):

1. March 2002, US/Canadian Academy of Pathology, DR Butler (ARP).
2. October 2002, International Academy of Pathology, BH Williams, DR Butler (ARP).

PRESENTATIONS

1. March 2002: Herndon, Va, NOVA, "Basic care and diseases of the domestic ferret," BH Williams.
2. April 2002: Washington, DC, "Gross morbid anatomy of diseases of animals: macroscopic description in veterinary pathology," BH Williams.
3. June 2002: Washington, DC, "AFIP Weekly Professional Staff Conference," BH Williams.
4. June 2002: Washington, DC, "Macroscopic and microscopic description in veterinary pathology," BH Williams.
5. July 2002: Genoa, Italy, Eurotelepath: Telepathology and Digital Imaging Lecture Series, BH Williams.
6. October 2002: Edinburgh, Scotland, "Macroscopic and microscopic description in veterinary pathology," BH Williams.
7. October 2002: Jiddah, Saudi Arabia, Arab International Academy of Pathology, "Telepathology: perspective or disaster for the future of pathology," BH Williams.
8. November 2002: Charleston, SC, Medical University of South Carolina, Inaugural Symposium on Virtual Slides in Research, Teaching, and Diagnosis, "Virtual slides in diagnostic pathology: distant implementation," BH Williams.

PUBLICATIONS

Journal Articles

1. Williams BH. Inflammatory bowel disease: an enigma wrapped in a mystery. *Jpn J Small Anim Exot Med*. 2002;4:18-22.

2. Williams BH, Fisher PG, Johnson TL. Diffuse cutaneous telangiectasia in a ferret with adrenal associated endocrinopathy. *Exot DVM*. 2002;4:9-10.
3. Williams BH. Squamous cell carcinoma arising from the anal sac in a ferret. *Exot DVM*. 2002;4:7-8.
4. O'Mahony D, Banach L, Mahapa DH, Lancaster EW, Van der Linde GD, Williams BH, Herring RF, Asvadi SA. Teledermatology in a rural family practice. *S A Fam Pract*. 2002;254-258.
5. Williams BH. Discovering telecytology. *Vet Pract*. 2002;14:21-22.
6. Williams BH. Ten steps to better pathology results. *Vet Pract*. 2002;14:32-33.
7. Williams BH. When answers create more questions: deciphering veterinary pathology reports. *Vet Pract*. 2002;14:2-4.

Telemedicine Exhibits

1. USCAP Meeting, Chicago, Ill, March 2002.
2. International Academy of Pathology Meeting, Amsterdam, The Netherlands, October 2002.

ADMINISTRATION

**OFFICE OF THE CHIEF OF STAFF
DIRECTORATE OF HEADQUARTERS
OPERATIONS**

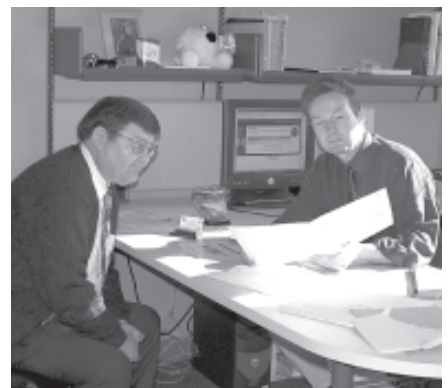
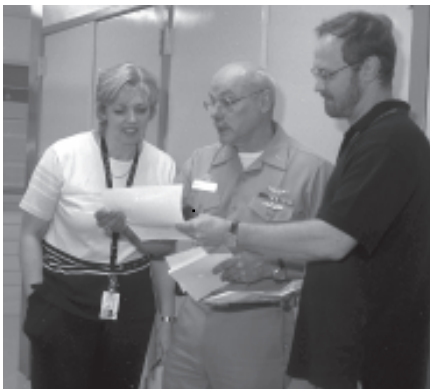
**DIRECTORATE OF INFORMATION
MANAGEMENT**

DIRECTORATE OF LOGISTICS

OFFICE OF PUBLIC AFFAIRS

**DIRECTORATE OF RESOURCES
MANAGEMENT**

OFFICE OF SAFETY MANAGEMENT





Lawrence E. Shaw, LTC, MS, USA
Date of Appointment — 1 December 2000



OFFICE OF CHIEF OF STAFF FOR ADMINISTRATION

MISSION

The Office of Chief of Staff for Administration is charged with the following missions:

- Oversee the administrative activities of the AFIP.
- Advise and assist the Director and Principal Deputy Director with executive-level Institute administrative functions and protocols.
- Interface and coordinate with the staff of OTSG, NARMC, MEDCOM, and other DoD agencies on functional issues related to the Institute.
- Oversee the Institute's Headquarters operations, Information Management, Logistics and Facilities, Resources Management, and Safety departments.
- Direct an administrative staff of approximately 200 personnel, controlling the execution of the Institute's \$63 million operating budget and the \$25 million construction funding.

STAFF

Lawrence E. Shaw, LTC, MS, USA, Chief

ORGANIZATION

1. Office of the Chief of Staff for Administration
2. Directorate of Headquarters Operations
3. Directorate of Information Management
4. Directorate of Logistics
5. Directorate of Resources Management
6. Office of Safety Management

COMMITTEES

The office is represented on the following AFIP committees:

1. Executive Committee
2. Safety Committee (Chair)
3. Physical Security Committee
4. Personnel Development Committee
5. Awards and Recognition Subcommittee (Chair)

ACTIVITIES

The administrative staff focuses on improving the scope and quality of support provided, with greater accountability and responsiveness to the needs of the departments providing consultation, education, and research services. Accomplishments for 2002 include the following:

1. Progress toward leaseback contracts for automation equipment.
2. Establishment of a SIPRNET capability for secure communication of sensitive information.
3. Establishment of the Institute's BioSurety Program, development of the regulations, completion of inspections by DoD, DA, and MEDCOM, and timely identification of external funding to start the program.
4. The CEEP (Capital Expense Equipment Program) was revitalized for purchasing equipment using external funding, which resulted in a \$600K end-of-year equipment purchase.
5. The Physical Security Office was reinforced by the addition of armed guards and a skilled security manager. Efforts to provide more security and monitoring resulted in an additional \$525K in external funding for security enhancements.
6. Ongoing efforts to improve contracting support resulted in expanded arrangements with Ft. Detrick, DSC-Philadelphia, and WRAMC. LIDS (Logistics Integrated Delivery System) and Corporate Express were introduced to reduce costs and improve efficiency.
7. Regulated medical waste and hazardous chemical disposal. Coordinated contracts with the installation environmental office to provide services under the installation support agreement. Reinforced the chemical and waste recycling programs for the Institute.
8. Identified reserve mobilization positions and submitted the Operation Noble Eagle After Action Report to each of the Service Surgeons General and the Assistant Secretary of Defense for Health Affairs.
9. Provided high-level support to installation programs such as the Combined Federal Campaign, achieving 131% of the annual campaign goal, and finishing the year with a 97% enrollment in the Army Knowledge Online (AKO) program.
10. The administrative staff provided dedicated support to all inspections and were noted for their laudatory performance in many after-action reviews. Briefings to the Army Surgeon General were well-received.

GOALS

1. Increase the scope and quality of support provided throughout the Institute.
2. Continue efforts to gain external support for Institute programs.
3. Improve relationships on the installation and with the services.
4. Continue to be proactive in meeting the security and management-control requirements for restricted military programs.
5. Develop an information management system that provides appropriate documentation and accountability for the consultation process.
6. Provide high-quality logistical and contract support to the many operational requirements of AFIP.
7. Support and improve all measures to publicize the world-class diagnostic, consultation, research, and educational missions of the AFIP.



Patricia A. Marshall
LTJG, MSC, USNR
Director, Headquarters Operations
Chief, Military Personnel
Date of Appointment—22 May 2000



DIRECTORATE OF HEADQUARTERS OPERATIONS

MISSION

The directorate of the Military Personnel Office and Headquarters Operations is liaison to the various military personnel offices located at Walter Reed Army Medical Center, Delano Hall, the Air Force Military Personnel Flights at Bolling and Andrews Air Force Bases, and the Personnel Support Detachment at NNMC Bethesda. The AFIP military service representatives coordinate all military personnel actions, which ensures accuracy and enables the military personnel offices to provide better communication through a single point of contact. The functions of this office include military personnel in/out processing, military performance evaluations, military leave, special pays, promotions, separations, retirements, pay statements, personnel actions, military awards, personnel tracking, duty rosters, and collateral duty assignments.

STAFF

Rayford Jones, MSgt, USAF, Assistant Chief, MILPO, HQ Ops
Ruby Fletcher, SSG, USA, NCOIC, Army Personnel Representative
Steven Thomas, YN2, USN, Navy Personnel Representative
Fionna Larcom, YN2, USN, Navy Personnel Representative
Cicel Anderson, YN3, USN, Awards Clerk

OVERVIEW

The Military Personnel Office provides administrative support to over 700 civilians and 179 military officer and enlisted personnel located at 3 different sites. The staff develops policies, procedures, and standards that support the Institute's mission, vision, goals, and ongoing initiatives in the areas of manpower, military personnel, and operational readiness.

The Military Personnel Office is also responsible for reviewing and evaluating manpower and service-specific documents, ensuring that requirements are accurately stated, and identifying and preparing change requests as directed.

ACCOMPLISHMENTS

The focus for most of 2002 was directed at the administrative coverage provided during Operation Noble Eagle. During this period, the Military Personnel Office processed over 400 individual awards for personnel who contributed to missions identification efforts. Of equal importance was the continued success of the unit's medical and dental readiness, and the revised and highly effective Personnel Security Program. The department streamlined the reporting process required to conduct a background investigation from 60 days to 1 week by integrating the Electronic Personnel Security Questionnaire (EPSQ).

GOALS

1. Better customer service through team building.
2. Military and nonmilitary training in customer service.
3. Enhancing the level and timeliness of support provided to all customers.
4. Aggressively pursuing backfill of military personnel losses throughout the Institute.



Franklin D. Rowland, LTC, MSC
Director
Date of Appointment – 5 August 2002



DIRECTORATE OF INFORMATION MANAGEMENT

MISSION

The Directorate of Information Management provides information management, technology, and services to the Institute. Under the provisions of AR 25-1, the directorate provides support for automation, visual information, telecommunication, records management, and distribution services in support of the Institute's worldwide mission of consultation, education, and research. The directorate designs and implements state-of-the-art technologies to deal with important military issues.

ORGANIZATION

The directorate is organized into 4 divisions and the Office of the Director:

1. Automation Management Services Division
2. Distribution Center/Mailroom Distribution Center
3. Records Management Division
4. Visual Information Division

STAFF

(A) Franklin D. Rowland, LTC, MSC, Director
(D) Cathy N. Troutman, MAJ, MS, USA, Director
(D) Bobbie J. Turner, ENS, Plans and Operations Officer
(D) Brenda G. Corrao, HM2, Project Officer
Albert J. Judd, Deputy Director
Faith R. Dixon, Administrative Officer
Jeanette Griffin, Parking Manager/Administrative Assistant

GOALS

1. Provide an expert, responsive, top-quality infrastructure of services and technology.
2. Provide the sound planning and advice Institute leaders need to manage information resources.
3. Develop a user-friendly enterprise solution to provide the technology.

AUTOMATION MANAGEMENT SERVICES DIVISION (AMSD)

Edward J. Sullivan, LCDR, MSC, USN
Chief

Date of Appointment - 25 November 2002

MISSION

The Automation Management Services Division (AMSD) provides a comprehensive range of automation support, communications, and other information management services to the Institute. AMSD manages a local area network of more than 1,000 devices, including support to remote buildings at Forest Glen, Silver Spring, and the AFIP Annex in Rockville, Md. AMSD acquires and maintains administrative and clinical software applications for the Institute.

ORGANIZATION

The division is organized into 5 branches:

1. Customer Support/Training
2. Systems Development/Migration
3. Computer Operations
4. Network Support/Migration
5. Contract Support

STAFF

Office of the Chief:

- (A) Edward J. Sullivan, LCDR, MSC, USN, Chief
- (D) Hazelann Teamer, LTJG, MSC, USNR, Chief
Rose Oscars, Telecommunication Security and Control Officer (TSCO)

Customer Support/Training:

Edwanna Jones, Help Desk Manager
Gerald Winchester
John Simpson
Luz Velasco

Systems Development/Migration:

- (D) Robert Mills, Deputy Chief
Dante Burruss
Alec MacClintock
Barry Schell
Patricia Niwenizin

Computer Operations:

Bobby Knight, Assistant Chief
Glenda Williams

Network Support/Migration:

William Rohland, Assistant Chief
Herbert Greene

Contract Support:

- (A) Aleksander Bruslavskiy
- (A) David Bryant
- (A) Djukanovic Marko
- (A) John Rozga
- (A) Cheryl S. Ton
- (A) John R. Allers
- (A) Jamie Nola
- (D) Peter Uba
- (D) Juet Duckworth
- (D) Annette Simpson
- (D) Samson Seyfou (part-time)
Peter Gray

Tan Ly
Theodore Blount
Guy Kelly
Roza Podkovyrova
James Wood
Salita Vladimir
Sita Ananth
Jesse Tristian

ACCOMPLISHMENTS

- Implemented a lease program for computer desktops.
- PIMS development team added many new services to the barebones release of PIMS 2000 and tripled the amount of functions available to AFIP staff on the PIMS intranet site, including many new reports. Our e-mail server and primary storage devices were vastly improved in capacity and speed.
- AMSD staff continued support of network, server, telecommunications, and PC operations.

MAIL DISTRIBUTION CENTER

Lenora Hicks, Chief

MISSION

The Mail Distribution Center provides mail distribution services to the AFIP in support of its mission of consultation, education, and research, under the provisions of the AR-25-51, IM Policy 25-02-01 (Mail Handling Guidance).

STAFF

Lenora Hicks, Chief
Kevin Doster

ACCOMPLISHMENTS

The center processes approximately 100,000 pieces of mail annually. The staff works with installation mailroom and servicing Post Offices personnel to ensure that metering of outgoing mail and delivery of incoming mail is timely.

RECORDS MANAGEMENT DIVISION

Bonnie Short, Management Analyst (Records Management)

MISSION

The Records Management Division supports the staff of the AFIP with forms, publications, printing, training, consultation, and archiving under the Records Management Program. The division ensures that all Institute forms, directives, and media are current, while keeping up with the latest technology to optimize time and economy and enhance the “paperless office.”

ACCOMPLISHMENTS

The division is responsible for the Institute’s digital imaging copier program. Subsequent developments to the program include the replacement of many of the centrally located copiers, which entails supplies, a new lease agreement, and an improved maintenance service. The division supports Freedom of Information Act (FOIA) and Privacy Act (PA) functions, and

keeps AFIP regulations and policy letters updated. Presently, the division is replacing the Jetform Forms Flow program and installing the AMEDD Electronic Forms Support System (AEFSS), version 4.5, which includes electronic signature, throughout the Institute.

VISUAL INFORMATION DIVISION

Joseph Durick, Jr., Chief

MISSION

The Visual Information Division provides photography, illustrations, exhibit production, material for publication, and illustration archiving services to the Institute.

ORGANIZATION

The division is organized into 4 sections and the Office of the Chief:

1. Photography Section, Veronica Ferris, MFS
2. Photography Section (Laboratory), Kenneth J. Vrtacnik
3. Electronic Multimedia Imaging Center, Douglas Landry
4. Exhibit Production Section, Larry W. Claiborne

STAFF

Office of the Chief:

Joseph Durick, Jr., Chief
Bobby Meeks

Photography Section (Photomicrography and Gross Photography)

Veronica Ferris, MFS, Chief, Lead Medical Photographer
(A) Christopher Williams, PH4, USN
Anthony E. Shirley
Andy Morataya

Photography Section (Laboratory):

Kenneth J. Vrtacnik, Chief
Anita A. Belen
Aubrey Chester
Robert Edwards
Leonard Fitzgerald
Jeanette Griffin
Beverly (BJ) Jones
Sharon Kelley
Steve Kruger
Thomas Lynn
Vincent Neaz

Electronic Multimedia Imaging Center:

Douglas Landry, Chief, Electronic Multimedia Imaging Center
Michael Smith, TSgt, USAF
Sheryl Hollis, SrA, USAF
Julianne Toohey

Exhibit Production:

Larry Claiborne, Chief
Cassandra Wood-Gilchrist, Exhibit Coordinator/Administrative Support Specialist
(A) Christopher M. Zavestoski, SrA
(D) James Crane
Pauline Dixon
Harold Felder
Venetia Valiga
Alan Giese

William McLain
Erin Oliphint, SrA, USAF
David Shupay, SSgt, USAF
Seth B. Jones

PHOTOGRAPHY SECTIONS (PHOTO AND LAB)

MISSION

The Photography Sections provide all phases of medical photography for AFIP staff and the medical services of the Armed Forces, other federal agencies, and authorized civilian medical institutions and individuals. The sections provide training in medical and scientific photography and personnel for technical assistance in investigative studies of pathological and medical research and clinical problems. The sections also provide photographic laboratory services for the processing of all black and white and color photographic illustrations.

ACCOMPLISHMENTS

Requests for photographic services remained stable in 2002. Total photographic production included 419,338 items. About 10% of production represented services provided to WRAMC customers. The sections continued to upgrade their equipment for improved services, and have also expanded digital photographic capabilities. The sections continued to extend their abilities to produce a much wider variety of digital photographic products. Also during 2002, a program was established with the AFIP Medical Examiners Division to use the VID photographers as additional resources when needed.

ELECTRONIC MULTIMEDIA IMAGING CENTER (EMIC)

MISSION

The Electronic Multimedia Imaging Center (EMIC) produces medical art, illustrations, poster sessions, layout design, and camera-ready copy for brochures, syllabi, and other publications, and explores innovative, cost-effective new processes for distributing medical information. The center also provides training in all applications of digital imaging to AFIP professional staff.

ACCOMPLISHMENTS

During 2002, EMIC accomplished the following:

- Produced 75 new poster sessions.
- Updated 12 previous poster sessions.
- Scanned over 22,000 images for syllabi, 2x2, and on-screen presentations.
- Produced 12 course syllabi and educational CD ROMs for the Department of Medical Education.

EXHIBIT PRODUCTION BRANCH (EPB)

MISSION

The Exhibit Production Branch (EPB) is responsible for DoD Medical/Scientific Exhibits for the DoD Tri-Service Medical Command, and services to the Veterans Administration, US Coast Guard, AFIP, the National Museum of Health and Medicine, and the Commissioned Corps of the US Public Health Services.

The mission directive covers the procedures for requesting, producing, and displaying medical/scientific exhibits through the use of AFIP's scientific illustration and exhibit design and creative processes. EPB provided management services for portable and custom-made exhibits and poster sessions. We are also responsible for shipping, maintenance, storage, custom design, and creation of local and traveling medical/scientific exhibits and displays, as well as local, national, and international conventions, symposiums, and exhibitions.

In 2002, we managed 6,155 square feet of exhibit floor space. We shipped/showed 186 conferences and exhibitions locally, nationally, and internationally. EPB shipped to show 8 refurbished and 4 new exhibits. Our customers were OTSG, the Pentagon, NARMC, USA CHPPM, NAMRL, DoD/VA, USAMRMC, TATRC from Ft. Detrick, and Tri-Service Agencies of the DoD Medical Command, including MEDCOM Marketing HQ and WRAMC, Deployment Health Clinical Center, WRAMC, Equal Employment Opportunity Office, WRAMC, and HEALTHeFORCE, WRAMC.

Other services included 250 engravings of coins, door signs, and name plates for plaques, 3 display windows, 3 exhibit projects for the National Museum of Health and Medicine, including the design and construction of the Lobby Gift Shop, Angels of Mercy and Arsenic Poisoning. EPB shipped the World Slavery Exhibit from WRAMC to Baltimore and was presented on the ship Amistad at the Inner Harbor, Baltimore. EPB also designed and produced the custom display cabinet in the lobby of AFIP. EPB did lamination of poster sessions, lamination of new and refurbished exhibit display panels, custom framing and matting, production of flyers, brochures, certificates and posters. In 2002, the branch successfully completed a move from the WRAMC campus to a new office in Rockville, Md.

ACCOMPLISHMENTS

Conferences	Date	Location	Participants	Booths
Sargeant Majors Conf	7-11 Jan 02	Ft. Bliss, Tex	USA MEDCOM	1
Reserve Officers Association	20-22 Jan 02	Wash, DC	USA CHPPM	1
			NARMC	2
			AFIP-PAO	1
Healthcare Information and Management Systems	28-31 Jan 02	Atlanta, Ga	RITPO	2
TRICARE Management	4-7 Feb 02	Wash, DC	USA MEDCOM	3
			USA CHPPM	2
			DoD/VA-CPB	1
			MEDPROS	2
			NARMC	2
			RITPO	2
			WHRSC	2
			AFIP-Legal Medicine	1
American Academy of Forensic Sciences	13-16 Feb 02	Atlanta, Ga	AFIP-OAFME	1
North Atlantic Regional Medical Command	15-17 Feb 02	Fayetteville, NC	NARMC	2
Black History Month	15 Feb 02	Wash, DC	WRAMC Hospital	300 sq ft
Howard University	18 Feb 02	Wash, DC	WRAMC EEO	1,500sq ft
Southern Educational Congress of Optometry	25-27 Feb 02	Atlanta, Ga	USA CHPPM-Vision	1
US & Canadian Academy of Pathologists	25-27 Feb 02	Chicago, Ill	AFIP-ARP	3
Army Medical Evacuation Conference	25Feb-01 Mar 02	San Antonio, Tex...	MODS	2
			USA MEDCOM	3
			USA CHPPM	1
American Journal of Health Promotion	26-28 Feb 02	Lake Tahoe, Nev	USA CHPPM	1

National Guard Conference	4-7 Mar 02	Orlando, Fla	USA CHPPM-SIO	1
Emotions Exhibit	15 Mar 02	Wash, DC	NMHM-AFIP	3,585sq ft
Society of Toxicology	17-21 Mar 02	Nashville, Tenn	USA CHPPM	1
			AFIP-RTPA	1
Society of Armed Forces Laboratory Specialists	18-21 Mar 02	Spokane, Wash	AFIP-AFDIL	1
Joint Services Symposium	18-21 Mar 02	Orlando, Fla	AFIP – Legal Medicine	1
Uniformed Services Academy	21-22 Mar 02	Orlando, Fla	DoD/VA-CPG	1
28 th Environmental Conference	25-28 Mar 02	Charleston, SC	USA CHPPM	1
Worldwide IG Conference	15-18 Apr 02	Ft. Belvoir, Va	USA MEDCOM	1
MidAtlantic Association of Forensic Sciences Mtg.	29 Apr-4 May 02 ..	Frederick, Md	AFIP-AFDIL	1
Army Engineering Association	29 Apr-4 May 02 ..	Ft. Leonard Wood, Mo	USA MEDCOM	3
Adjutant Generals Conference	5-9 May 02	Orlando, Fla	USA MEDCOM	3
Aerospace Medical Association	7-8 May 02	Montreal, CAN	NAMRL	1
AUSA Medical Symposium	7-10 May 02	San Antonio, Tex...	USA MEDCOM	3
			USA CHPPM	
			HEALTHeFORCE	3
			VETCOM-FtSAM	1
			DoD/VA CPG-EBC	1
			MODS-OTSG	2
Army Aviation Association	12-15 May 02	Nashville, Tenn	USAARL-Ft. Rucker	1
Quartermaster's Conference	15 May 02	Ft. Lee, Va	USA MEDCOM	1
Armor Conference	20-23 May 02	Ft. Knox, Ky	USA CHPPM	2
			USA MEDCOM	3
10 th Global Demilitarization	20-24 May 02	Lexington, Ky	USA CHPPM	1
TRICARE – Central Region	19-23 May 02	Colorado Springs, Colo	DOD/VA CPG-EBC	1
TRICARE – Northeast Region	20-23 May 02	Towson, Md	HEALTHeFORCE	2
2002 DoD Automation	19-23 May 02	Nashville, Tenn	ACTUR/FICCAR	1
American Industrial Hygiene Conference	3-5 Jun 02	San Diego, Calif	USA CHPPM	1
Society of Toxicologic Pathologists	3-6 Jun 02	Denver, Colo	AFIP-RTPA	1
North American Association of Central Cancer Registries	11-13 Jun 02	Toronto, CAN	AFIP-ACTUR FICCaR	1
Infantry Conference	11-15 Jun 02	Ft. Benning, Ga	USA MEDCOM	3
			USA CHPPM	1
			USA CHPPM –Vision	1
Special Forces Conferences	18-19 Jun 02	Ft. Bragg, NC	USA MEDCOM	3
National Environmental Health	2-5 Jul 02	Atlanta, Ga	USA CHPPM	1
Non-Commissioned Officers	4-7 Jul 02	Denver, Colo	USA MEDCOM	3
Summer Institute	18-19 Jul 02	San Antonio, Tex...	DOD/VA CPG-EBC	1

Transportation Corps Week	22-27 Jul 02	Ft. Eustis, Va	USA MEDCOM	1
TRICARE-West Coast Region	6-7 Aug 02	Reno, Nev	DOD/VA CPG-EBC	1
Army Force Health Protection	9-16 Aug 02	Baltimore, Md	USA CHPPM	2
			USA CHPPM Vision	1
			USA CHPPM SRT	1
			USA CHPPM DOEHS	1
			AFIP-PAO	2
			DHCC-WRAMC	1
			MEDPROS – OTSG	2
			VET CORPS – Ft. Sam	1
			USAMRMC – Ft Detrick	2
			USA MEDCOM	3
			SMART PMS	1
			HEALTHeFORCE	3
			AFIP-EPB	1
7 th Annual Joint Services	19-22 Aug 02	San Antonio, Tex ...	USACHPM	1
Pollution Prevention Conference			HEALTHeFORCE	3
Joint Services Exposition	14-15 Sep 02	Overland Park, KA .	USA CHPPM	1
AUSA Annual Meeting	2-5 Oct 02	Wash, DC	USA MEDCOM	3
			USA CHPPM	1
			MODS	2
			OTSG-Public Affairs	1
International Association of	5-10 Oct 02	Amsterdam,	ARP	1
		Holland		
Army Surgeons of the United	10-15 Nov 02	Louisville, Ky	USA MEDCOM	3
			USA CHPPM	2
			AMEDD Regiment	3
			AMEDD School	3
			USAMRMC	14
			AFIP	2
			AFIP-Legal Medicine	1
			PACIFIC E/1	2
			JR CAB-Ft Detrick	1
			HEALTHeFORCE	3
			NARMC	
			DoD/VA CPG	1
			RITPO	2
			NAVY FLEET	3
			CCDR-NAVY	1
			VET CORP	1
			DHCC-WRAMC	1
			USA PASBA	1
			OTSG Public Affairs	1
			MODS-OTSG	2
Radiological Society of	30 Nov-2 Dec 02 ..	Chicago, Ill	AFIP-Radiology	1
North America				
37 th Academy of Veterinary	7-11 Dec 02	New Orleans, La	VET PATH-AFIP	1
Pathology				
Special Ops	10-14 Dec02	Tampa, Fla	USA MEDCOM	1

CARPENTRY SHOP SERVICES

Carpentry Shop Services to the Institute, NMHM, Pentagon, OTSG, and WRAMC were as follows:

1. Engraving Projects 486
2. Construction Projects 69
3. Framings 41
4. Museum Exhibits 3

5. Traveling Exhibits	16
6. Show Services	77
7. Tabletop Exhibits	2

EPB collaborated with DMIS on many of these projects and design themes for exhibits. DMIS and EPB were reorganized as a single unit in 2000.

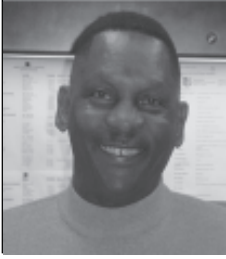
DIGITAL MEDIA ILLUSTRATION SERVICES (DMIS)

MISSION

Digital Media Illustration Services produces medical art, illustrations, poster sessions, exhibit design, and camera-ready copy for brochures, educational syllabi, and other publications, and general art work as requested. DMIS also provides digital imaging in all forms of media and illustration, and training in all applications of digital imaging to AFIP professional staff.

ACCOMPLISHMENTS

1. General Art	358
2. Medical Illustrations	29
3. Poster Sessions	24
4. Posters	201
5. Exhibits	14
6. Tabletop Exhibits	2
7. Certificates	104
8. Flyers/Brochures	11,986
9. Brochure Design	11
10. Display Windows	2
11. Framings	56



Lonnie Winley
Director
Date of Appointment – 10 April 2002



DIRECTORATE OF LOGISTICS

MISSION

The Directorate of Logistics integrates long-range and daily sustainment efforts with the AFIP to provide on-time materials and services. Sustainment efforts include equipment acquisition, receipt, and delivery; supply requisition processing; property accountability; facility maintenance and repair; housekeeping; space management; hazardous substance management services; construction project management; biomedical maintenance operations; and contract management encompassing the American Registry of Pathology, Franchise Business Activity (Star Digital), J&J Maintenance, and B&B Housekeeping contracts. The directorate strives to provide flexible, responsive, economical, and attainable supplies, equipment, and services to support the mission of the AFIP.

ORGANIZATION

The directorate is organized into 6 major divisions, including the Office of the Director:

1. Office of the Director of Logistics
2. Facilities and Services Division
3. Materiel Acquisition Division
4. Materiel Receiving and Distribution Division
5. Property Management Division
6. Hazardous Substance Management System (HSMS) Division

The directorate is also organized into 3 special staff functional areas organized under the Director and Deputy Director of Logistics:

1. Engineering, Renewal, and New Project Management
2. Physical Security
3. Hazardous Materials Management

STAFF

- (D) William McCarthy, MAJ, MS, USA, Director
 - Lonnie Winley, Director
 - Paula Hunter, SSG, USA, DOL NCOIC
 - Ted Gross, Mechanical Engineer and Chief, Renewal Project
- (D) Ted Polk, Space Manager
 - Parks Wilson, Administrator for Transition Planning
- (D) Jean Giles, Administrative Assistant
- (A) Jade Boesen, Administrative Assistant
- (A) Anthony Parnell, Physical Security Manager

Facilities and Services Division:

- Cornelius L. Reeder, Chief and Facility Manager
- Allen Harris, Quality Assurance/Quality Control Manager
- Willie Poole, Supply Technician
- Rosalind Vines, DLMSS Manager

Facilities Maintenance Branch:

- (D) Amaryllis B. Olasehinde, ENS, USN, Chief
- (A) C. Christian DiMercurio, LTJG, USN, Chief
- (D) Alan Terpolilli, Project Manager
- (D) Jerry Houston, Project Manager
- (D) Rick Phillips, Maintenance Supervisor
 - Al Bradley, Maintenance Mechanic
 - Mark Waddy, Maintenance Supervisor
 - Raj Jeevaraj, Carpenter
 - Francis Foreman, Plumber
 - Paul Castro, Maintenance Mechanic
 - Deon Jolley, Work Center Manager
 - Tim Randall, Material Coordinator
- (D) Larry Harris, HVAC Mechanic
- (D) Billy Atcherson, HVAC Mechanic (DPW-WRAMC)
 - John Schnapp, HVAC Mechanic (DPW-WRAMC)
- (D) John Massey, Maintenance Mechanic
- (A) Gary Pinkney, Project Manager
- (A) Josh Baumgardner, HVAC Mechanic
- (A) Prince Robinson, Maintenance Mechanic
- (A/D) Reggie Randall, Plumber
- (A) Ronald Hunt, Electrician
- (A) Edward Clark, Maintenance Mechanic
- (A) Dave Jordan, Maintenance Mechanic

Facilities Projects Branch:

- Ted Gross, Mechanical Engineer
- (A) Ron Gadow, Project Manager
- (A) Ron Coleman, CADD Operator

Environmental Services/Housekeeping Branch:

- Gary Brown, Executive Housekeeper
- (A) Gregory Graves, Project Manager
- (D) Rey Reyes, Project Manager
 - Maria O. Reyes, Supervisor
 - Jose Sanchez, Housekeeper
 - Marvin Abarca, Housekeeper
 - Maria E. Aleman, Housekeeper
 - Angel Fuentes, Housekeeper
 - Maria D. Mejia, Housekeeper
 - Jose Guevara, Laborer
 - Bladimir Plaitez, Housekeeper
 - Idalia Reyes, Housekeeper
 - Maria I. Reyes, Housekeeper
 - Morena Rivera, Housekeeper
 - Sonia Salamanca, Housekeeper
 - Eleno Sibrian, Housekeeper
 - Gloria Viera, Housekeeper
 - Juan Sosa, Housekeeper
 - Benjamin Vega, Housekeeper

Materiel Acquisition Division:

- Lanelle Chisolm, CPT, MS, USA, Chief and COR, ARP Contract
- (D) Jennifer Ferguson, CPT, MS, USA, COR, ARP Contract
- (D) Viola Fugate-Watkins, SGT, USA, NCOIC
 - Ricardo Montalvo, SGT, USA, NCOIC/Supply Technician
 - Sonia Cross, Logistics Analyst
 - Jerome Thorpe, Lead Supply Technician
 - Alonza Snipes, Purchasing Agent/IMPAC Coordinator
- (D) Chastain Black, SPC, USA, Supply Technician

Materiel Receiving and Distribution Division:

- (D) Willie Vaughn, Chief
 - Dierdra Carey, Inventory Technician
 - Gary Dangerfield, Driver/Materiel Handler

Leroy Nelson, Materiel Handler
Mitchel Feaster, Materiel Handler

Property Management Division:

- (A) Lisa N. Wilson, CPT, MS, USA, Chief
Rudolph Wynn, Property Book Officer
- (D) Gordon Whitsitt, MEDCASE Manager
Ty Lassiter, Supply Technician
- (D) Luis Flores, SPC, USA, Supply Specialist
Clifton Ayers, Supply Technician
- (A) Monias Allen, SPC, USA, Supply Technician
- (A) Debbie Kohnhorst, AMEDDPAS Clerk

Biomedical Maintenance Branch:

- George Williams, Chief
- (D) Paul Komula, SGT, USA, Advance Biomedical Maintenance Technician
Michael Patnode, SPC, USA, Biomedical Maintenance Technician
Phyllis Nicholson, Purchasing Agent
Bridgette Cobblah, Senior Biomedical Maintenance Technician
Willie McDaniel, Senior Biomedical Maintenance Technician
- (A) Victoria Chapman, SPC, USA, Biomedical Maintenance Technician

HSMS Division:

- Charles Harris, Chief
Christeen Baker, Supply Technician, HAZMART Operator
Christopher Jordan, Hazardous Material Management System Technician
- (A) Gayle Cabral, SPC, USA, Supply Technician

FACILITIES AND SERVICES DIVISION

The Facilities and Services Division chief is responsible to the Director of Logistics for facility management and maintenance of approximately 600,000 square feet of research and administrative buildings. The director:

- Is responsible for technical and administrative management of Facility Maintenance, Environmental Services, and Project Management Branches.
- Serves as the Institute's Facilities Safety Officer and is responsible for adherence to Life Safety Codes and construction safety programs.
- Serves as senior physical security manager for the Institute.
- Assures clear and definitive communication on facilities and biomedical issues, procedures, and reporting.
- Establishes and implements operating procedures and policies in accordance with established objectives, schedules, and program funds.
- Manages a sustainment program through facility assessment, major repair program, Medical Military Construction (Medical MILCON) program, technical assistance program, monitoring management of research facilities, and continuous communication with the United States Army Medical Command (MEDCOM).
- Provides daily guidance for operation, maintenance, and repair of heating, ventilation, and air conditioning systems, fire protection systems, electrical and communication systems for all facilities within the AFIP.
- Implements, documents, and assesses programs to ensure continued quality of services.
- Approves the allocation and distribution of UMB K and UMB L funds.
- Coordinates MEDCOM, Health Facility Planning Agency (HFPA), US Corps of Engineers District and Headquarters (COE-HQ), and Walter Reed Army Medical Center (WRAMC) issues relating to AFIP's facilities.

Budget:

- \$1.82M Facility O&M Budget
- \$1.8K Credit Card
- \$42M Renewal Projects
- \$1.3M Repair and Renovation Projects

Accomplishments:

1. 10% increase in annual O&M budget
2. Award of \$42M Renewal Project
3. Developed and initiated a Quality Assurance (QA) program.
4. Performed 568 mechanical room inspections.
5. Averaged 25 work requests per week, generated from QA inspections.

Facilities Maintenance Branch: During 2002, the Facilities Maintenance Branch served customers effectively and efficiently and provided education and training for our staff. Our primary mission was to provide scheduled repair and preventative maintenance to the facility and its support systems. Additionally, the branch managed the Command Physical Security Program and the Command Key Control Program. Training conducted during the year included lock-out/ tag-out, fall protection, lab safety, Life Safety Code, fire extinguisher, and pneumatic controls training.

Accomplishments:

1. Tracked and documented performance of 100% of the required scheduled services for the Institute's real property.
2. Received and completed 4,721 in-house work requests.
3. Trained, outfitted, and licensed 4 technicians in asbestos removal.
4. Reinitiated pre- and post-utility outage meetings that included a lessons-learned brief.
5. Overhauled Building 509's supply air system.
6. Received and completed 2 emergency DPW service orders within 1 day of request.
7. Completed 7 life safety work requests within 2 days of request.
8. Made ADA revisions to Room G077.
9. Installed Extended Access Control Systems around Buildings 53 and 54.

Facilities Projects Branch: Provided total management support for renewal, site preparation for new equipment, and renovation projects. Provided professional engineering support to Facilities Maintenance Branch in support of services. Provided liaison between project contractors, the contracting agency, and the requesting activity. Completed or awarded over \$42M in design and construction contracts. Two physical security projects were completed, allowing compliance with DoD and MEDCOM regulatory requirements.

Accomplishments:

1. G077/75 renovation
2. Physical Security upgrades phases I & II
3. Distribution Room upgrade
4. G117 Vet Path expansion

Ongoing Projects:

1. Life Safety Upgrade Renewal (\$5,895K)
2. Transition Space Renewal (\$2,776K)
3. South Wing Terrace Design (\$60K)

Environmental Services/Housekeeping Branch: Provided laboratory-grade routine, event, emergency, and on-call custodial/snow removal services to the Institute, National Museum of Health and Medicine, Radiology Pathology Classroom, and Pathological Repositories.

Accomplishments:

1. Generated 531 general maintenance requests to the facility maintenance system (SERVREQ).
2. Replaced 2,347 damaged and/or soiled ceiling tiles during daily maintenance.
3. Performed cleaning services in support of the NMHM's 2002 Ash Lecture.
4. Performed 17 post-construction cleanings.
5. Continuously monitored Housekeeping email for customer requests.

Purchasing: Provided procurement processing for maintenance and related services for the Institute in a timely, professional, and courteous manner. Services supplied included processing and follow-up on Purchase Request and Commitment (DA Form 3953) of routine, emergency, and renewal services for medical and nonmedical equipment, construction, repairs and maintenance, rental, leases, lectures, and training. Served as liaison between the vendor, DFAS, and the

AFIP. Provided information via phone or e-mail regarding payments, payment discrepancies, and status requests. 95% of the Receiving Reports were processed to DFAS on or ahead of schedule.

Accomplishments:

1. Provided management for 243 lines of stocked parts valued at approximately \$257K in support of the Facilities Maintenance Branch.
2. Managed parts and services budget in excess of \$150K and procured maintenance services and parts using the Government Impact Credit Card.
3. Served as the division's Key Control Custodian and Hand Receipt Manager.
4. Conducted 746 credit card transactions valued at over \$150K.
5. Conducted negotiations resulting in procurement savings in excess of \$18.5K.
6. Ensured 100% accountability for the division's inventory of tools and test equipment.
7. Ensured 100% accountability of stocked parts.
8. Ensured 100% calibration of the Institute's TMDE.

MATERIEL ACQUISITION DIVISION

The Materiel Acquisition Division provides services and support relating to expendable supplies and services, including Credit Card, the Laboratory Integrated Delivery System (LIDS), and Local Purchase Requests. The division also maintains the ARP Personnel Contract for the Institute.

Accomplishments:

1. Implemented the Laboratory Integrated Delivery System (LIDS), an ECAT (electronic catalog) module.
2. Implemented the Customer Automated Reporting Environment (C.A.R.E.).
3. Implemented Acquiline (PRWEB), an automated, paperless purchase request system.
4. Acquired two \$25K Purchase Cards for centralized procurement.
5. Established OAFME's Dover mission supply support account through LIDS.

Laboratory Integrated Delivery System (LIDS): LIDS was implemented in 2002, replacing the Prime Vendor Contract. ECAT is a Defense Supply Center-Philadelphia product, which makes suppliers available to DoD customers. DoD organizations using the system enjoy savings from volume pricing and a larger selection of vendors. This Web-based ordering system allows the user to order crucial lab supplies via computer. Supplies are delivered within 72 hours, on average. LIDS orders totaled nearly \$700K in 2002.

Customer Automated Reporting Environment (C.A.R.E.): AFIP implemented C.A.R.E., an online credit card reconciliation program, in 2002. This program reduced the organization's delinquency rates by allowing instant reconciliation and approval.

Acquiline (PRWEB): The Institute implemented Acquiline in 2002. This paperless, automated purchase request system satisfies the DoD Paperless Act requirement and allows visibility of the purchase request through the approval process. PRWEB is centralized in the DOL to ensure a smooth transition from paper to paperless.

\$25K Purchase Card: Two \$25K ordering officers were appointed to procure items over \$25K on GSA contract. The card provides the speed and ease of an IMPAC credit card for purchases of large amounts of mission supplies/equipment. This card is used on Federal Supply Schedule Contracts, IDIQs, and BPAs as a form of payment. This Simplified Acquisition Program initiative has greatly served AFIP, especially for CEMEP equipment.

Dover Mission Supply Line: DOL, in collaboration with OAFME, established a dedicated supply line to support the Dover Mortuary Affairs mission, Operation Enduring Freedom, and any future missions assigned to OAFME. Personnel were trained on logistical systems and supply accounts were established. Preliminary inventory data were provided to DSCP for contingency support.

IMPAC Credit Card: The AFIP Credit Card Program, established in 1996, has practically eliminated the forwarding of small purchase requests to the WRAMC Directorate of Contracting. The Credit Card Program has significantly decreased the processing time for ordering and receipt of supplies. IMPAC Credit Cards were used to purchase in excess of \$3M in expendable supplies and services in 2002.

Local Purchase: Local Purchase expenditures forwarded to MEDCOM contracting offices exceeded \$9M in 2002, including \$4M in requirements contracts/standing orders.

ARP Contract: The first option year of the ARP Contract was executed in 2002 with a value of \$16M. The contract contains over 180 contract positions, which support various collaborative enterprises within the Institute.

MATERIEL RECEIVING AND DISTRIBUTION DIVISION

The division provided support in receiving, storage, distribution, and disposal of supplies and equipment.

Accomplishments:

1. Implemented new procedures for procurement of office supplies and equipment through Corporate Express, resulting in improved customer satisfaction and lower prices for high-demand and high-volume items.
2. Purchased and implemented electronic scanning system to track receipt and delivery of all packages at the Central Receiving Area, Bldg. 53 Warehouse. All personnel were trained in the use of the Symbol SPT1700 Portable Data Collection System scanners. Coordinated with the software developers to produce reports to manage more than 500 packages received and distributed weekly.
3. Provided support to the AFIP Excess Management Program through the turn-in of serviceable and unserviceable excess equipment to DRMO, Fort Meade. Items were generated at the AFIP, WRAMC, Bldg. 54, and satellite facilities in Silver Spring and Rockville, Md.
4. Managed the Controlled Substance Inventory Program, resulting in 100% accuracy in accounting for and distribution of assets to authorized users within the AFIP. Issues of ethyl alcohol alone amounted to 221 gallons in support of laboratory operations.

HSMS Division: The HSMS Division provided overall direction, guidance, technical and managerial support in the life cycle management of hazardous substances, using the Hazardous Substance Management System (HSMS).

Accomplishments:

1. Successfully completed the upgrade of the HSMS program to version 2.4. This significantly reduced the processing time and increased the capability to retrieve reference data in recording of receipts, issues, and location changes. Three personnel, including the division chief, completed approximately 40 hours of formal training to accomplish this transition.
2. Coordinated with the Garrison Environmental Office (GEO) and the HSMS Database Administrator to begin the removal of over 100 hazardous material line items from the AFIP HSMS database. These items were deemed to be nonhazardous and no longer required tracking or further expenditure of funds for disposal. Action is underway to remove an additional 300 line items that fall into the nonhazardous category.
3. Established HSMS records and processed receipts for over 800 line items that were not being tracked as hazardous substances, including approximately 500 types of antibodies containing the preservative sodium azide.
4. Established an automated document control procedure to track Chemical Processing Sheets. As a result, 90% of HSMS records for new items are now established within 2 days of receipt by the HSMS database administrator.
5. Revised inventory and expired inventory reports, making them more effective in both asset and shelf-life management. This was a significant factor in the Institute's receiving satisfactory evaluations during unannounced inspections by the GEO and the ECAS in 2002.

PROPERTY MANAGEMENT DIVISION

The Property Management Division assures clear and definitive communication on biomedical issues, procedures, and reporting. The division procures and provides maintenance and related services for the Institute, including processing and follow-up on purchase requests (DA form 3953) for routine, emergency, and renewal services for medical and nonmedical equipment, construction repairs and maintenance, rental, leases, lectures, and training. The

division also acts as liaison for payment discrepancies or status requests.

The Biomedical Maintenance Branch is responsible for approximately 6,000 pieces of medical equipment, and implements, documents, and assesses programs to ensure the continued quality of services provided. The branch also coordinates issues relating to AFIP's periodic scheduled maintenance, unscheduled repairs, and technical inspections, and prepares site surveys for the MEDCASE and newly purchased laboratory equipment throughout the Institute.

Accomplishments:

1. Executed highly sophisticated skills and strategies in processing over \$155K of Capital Expense Medical Equipment Program (CEMEP) equipment.
2. Initiated changes in daily operations that reduced purchase request process time from 7 to 3 days.
3. Saved AFIP \$49K on annual service contracts by using American Biomedical Group, Inc. (ABGI).
4. Obtained a \$5K credit card under CAP to expedite procurement of services and parts for the Biomedical Maintenance Branch.
5. Processed 678 excess turn-ins totaling \$2,342,127 through the Defense Reutilization Material Office (DRMO).
6. Submitted 4 new MEDCASE requirements valued at \$802,287.
7. Submitted 46 new CEMEP requirements valued at \$2M for the 2003 program. Procured 24 CEMEP requirements valued at \$624,247.83 during 2002.
8. Accomplished 98% of required preventative maintenance services on 7,500 pieces of equipment, exceeding MEDCOM's established annual goal of 95%.
9. Performed over 40 site surveys, resulting in timely installations of equipment.
10. Performed preventative maintenance on over 500 microscopes for the Department of Medical Education.
11. Processed 314 purchase requests valued at \$5,957,223.

PHYSICAL SECURITY

The Physical Security Office is responsible to the Director of Logistics for managing AFIP's physical security program and ensuring all requirements are met as established by DoD directives, United States Army Medical Command (MEDCOM), and the Army Physical Security Program. The Physical Security Office controls access to persons within the AFIP facility, promulgates security and crime prevention regulations, policies, and procedures to provide a secure environment for assigned personnel and visitors, and to safeguard assets in support of AFIP's mission.

Accomplishments:

1. Initiated a \$1.239M physical security upgrade to the AFIP facility, which includes additional building surveillance equipment, security upgrades within the BL3 laboratories, building renovations to enhance security at the front desk/lobby area, and a guard posted at the G-level loading area.
2. Hired a full-time Physical Security Manager to oversee the daily operation of the Physical Security Office and armed security personnel.
3. Completed \$130K security upgrade to the G-level Distribution Center and installed a sliding gate to control access to the rear loading dock, Bldg. 54.
4. Developed a BioSurety Program IAW DoD Directive 5210.XX and Draft AR 50-X.
5. Established a Physical Security Committee to advise and inform on issues of physical security, antiterrorism, safeguarding of biological agents, and to continually assess areas of vulnerability at the AFIP.
6. Passed a MEDCOM BioSurety inspection.
7. Reviewed and updated AFIP regulations governing the Physical Security Program, AFIP BioSurety Plan, Bomb Threat and Evacuation Procedures, and Key Control Program.



Christopher C. Kelly
Public Affairs Director
Date of Appointment—13 January 1991



OFFICE OF PUBLIC AFFAIRS

MISSION

The Office of Public Affairs provides a full range of external and internal communications programs in support of AFIP's essential military and civilian health care mission. The office provides timely information about AFIP's medical expertise in diagnostic consultation, education, and research to the DoD and the worldwide civilian medical community. We accomplish this through the *AFIP LETTER* (distributed to over 18,000 pathologists worldwide) and a variety of proactive media relations programs; by arranging and conducting briefings for national and foreign dignitaries; by coordinating numerous special projects and events; and through community relations programs.

ORGANIZATION

The office consists of a public affairs director, public affairs specialist, and interns.

STAFF

Christopher C. Kelly, MMgmt, Public Affairs Director
Michele R. Hammonds, BA, Public Affairs Specialist

DEPLOYMENTS

1. January 2002, Washington, DC. Reserve Officers Association, staffing of AFIP exhibit. MR Hammonds.
2. February 2002, Washington, DC. TRICARE Annual Meeting, staffing of AFIP exhibit. MR Hammonds.
3. February 2002, Morgantown, WV. Site visit to West Virginia facilities for potential AFIP relocation. CC Kelly.
4. February 2002, Martinsburg, WV. Site visit to West Virginia facilities for potential AFIP relocation. CC Kelly.
5. February 2002, Chicago, Ill. US/Canadian Academy of Pathology Meeting, staffing of AFIP exhibit. CC Kelly.
6. March 2002, Baltimore, Md. Site visit to University of Maryland Medical Center for potential AFIP relocation. CC Kelly.
7. August 2002, Baltimore, Md, Force Health Protection Conference, staffing of AFIP exhibit. MR Hammonds.
8. November 2002, Louisville, Ky, Association of Military Surgeons of the United States Annual Meeting, staffing of AFIP exhibit. MR Hammonds.

EDUCATION

Presentations and Seminars: Office staff gave 4 outside presentations representing 200 man-hours in 2002. Dates and titles are listed at the end of this report.

OTHER ACCOMPLISHMENTS

1. Oversaw production of the bimonthly *AFIP LETTER*, mailed to over 18,000 pathologists worldwide, including over 5,000 pathologists from Spanish-speaking nations.
2. Prepared exhibits for:

- TRICARE Annual Meeting, January, Washington, DC
- US/Canadian Academy of Pathology Meeting, February, Chicago, Ill
- Force Health Protection Conference, August, Baltimore, Md
- Association of Military Surgeons of the United States Annual Meeting, November, Louisville, Ky

3. Produced the following special events:

- Ash Lecture program, May 2002
- Annual Organization Day, August 2002

Committees:

CC Kelly:

1. Chair, 2002 Ash Lecture Planning Committee
2. Chair, 2002 AFIP Organization Day Planning Committee

MM Hammonds:

1. Member, 2002 Ash Lecture Planning Committee
2. Member, 2002 AFIP Organization Day Planning Committee
3. Member, 2002 Combined Federal Campaign Committee

Public Affairs Reports:

January

Coordinated interview with reporter Sonya Bowen of the *Frederick Post* and Paul Sledzik, curator, National Museum of Health and Medicine, regarding Sledzik's work in the September 11 terrorist attack investigation in Pennsylvania. Story appeared in the February 1 *Frederick Post*.

Provided information about AFIP's energy dispersive x-ray analyzer to *Wall Street Journal* reporter Antonio Regalado regarding the anthrax investigation.

Responded to request from CBS News, Jacksonville, Fla (reporter Heather Murphy) on findings in death investigation of Navy sailor on USS O'Bannon. Coordinated response with lead investigative agency, Naval Criminal Investigative Service.

Provided information on status of identification of service member killed in operational incident to reporter Charlanda Waterhouse of the Gary, Indiana *Post-Review*.

February

Provided contact information for Dr. Douglas Wear and reporter Betsy Thompson of *National Academy Press*. Reporter wanted to obtain an image of hemorrhagic meningitis for an article that was scheduled to run in February.

Coordinated news story for reporter Tony Dorsey of *Channel 4 News* regarding "bomb shelters" and buildings in the DC area constructed to withstand bomb blast in the event of another terrorist attack similar to 9/11. Dorsey's cameraman shot footage of main entrance, glass bombproof doors, and the outside of AFIP Building 54.

Provided updates to the following news organizations/correspondents on the status of DNA testing of tissue samples recovered in Afghanistan:

- Terry Freeman, CNN
- B.J. Reyes, Associated Press
- Mark Thompson, *Time* magazine
- David Martin, CBS News
- Jim Miklaszewski, NBC News
- Bob Burns, Associated Press
- Andrea Stone, *USA Today*
- Nancy Ellard, NBC News

March

Provided images of pulmonary tularemia, smallpox, botulism, and anthrax to *Ward TV* reporter Eric Wells of Washington, DC regarding a weekly series on genetics and biotechnology slated for broadcast on PBS.

Provided photomicrographs of a cystic fibrotic pancreas and abnormal pancreas for retired pathologist Dr. John Sutherland. The photomicrographs will be featured in a high school textbook on genetic engineering that Sutherland is writing.

Coordinated interview with Washington correspondent John Elliott of 2 Vandaag Dutch Television News and AFIP director CAPT Glenn Wagner about his knowledge and expertise on the Tenerife crash, which happened March 27, 1977. The interview aired on the anniversary of

the crash, March 27, 2002.

Provided information on DNA testing of remains recovered in Afghanistan for Tony Mills, London *Sunday Times*, and Chris Wright, Fox News Channel.

David Martin, CBS News, sought findings in case of the Navy SEAL who died in operations in Afghanistan.

April

Arranged background information to freelance journalist Lannie Peterson of the *Savannah Morning News* regarding cases of pygmy sperm whales and possible causes of death.

Provided background information for reporter Lauren Markoe of *The State Newspaper* regarding identification of group remains recovered from a crime scene, and Army regulations regarding group burials. James Canik, deputy director, DoD DNA Registry, provided AFIP position on group remains and group burials in accordance with Army regulation 638-2, Care and Disposition of Remains and Disposition of Personnel Effects.

Interest in the arrest of a US Air Force member accused of committing serial rapes in Philadelphia and Colorado developed, specifically surrounding the potential use of AFIP's DNA specimen repository to identify him. Coordinated inquiries from Walt Hunter, CBS Philadelphia, and Kevin Vaughan from the *Rocky Mountain News*.

May

Provided Web site information to Sunday magazine editor Kate Williams of *Stars and Stripes* regarding a photograph of an actual malaria germ or virus. The photograph was scheduled to accompany an article on Navy doctors and their work in battling malaria and other diseases in the Republic of Vanuatu, an island in the Pacific.

Kevin Sack, *Los Angeles Times*, sought information on the names of Harrier pilots who died in crashes. Referred to JAG office, Pentagon.

Thomas Gibbons, *Philadelphia Inquirer*, sought information related to AFIP's Armed Forces Repository of Specimen Samples for Identification of Remains (AFRSSIR) related to the serial rapist case.

Andrea Stone, *USA Today*, sought information on the collection of bin Laden family DNA reference specimens, as did Brian Bender of the *Boston Globe*. Referred to appropriate experts from other agencies.

Ezra Fieser, *Baltimore Daily Record*, sought further information about AFIP's future building plans and interest from the City of Baltimore for a potential site in that city.

Debbie Funk, *Times News Service*, sought expert commentary on AFIP's role in the Patient Safety Registry.

Provided Reni Winter, *Biloxi Sun-Herald*, with commentary on AFIP's DNA expertise for a Memorial Day feature she was writing about a local Vietnam War casualty not yet identified.

Provided background information to Shawn Effran, producer, *60 Minutes II*, on AFIP's role in testing tissue specimens recovered in Afghanistan. Clarified AFIP's role and referred him to other DoD agencies for additional questions.

June

Provided official statement to *Baltimore Sun* reporter Jackie Powder regarding the remains of a Navy midshipman found at the Naval Academy. Powder requested toxicology and autopsy results for a follow-up story on the midshipman.

Debbie Funk, *Times News Service*, interviewed Dr. Al Buck, Patient Safety Registry, on developments in the program.

Chris Wright, Fox News, and Pauline Jelinek, Associated Press, sought information on identification of Egyptian terrorist.

Coordinated with Navy CAPT Douglas Knittel, MC, Naval Hospital, Portsmouth (Va), on release of autopsy findings in case of a sailor who died unexpectedly. Provided technical/background information to local PAO for statement.

Provided information on AFIP's role in DNA testing of al Qaeda remains recovered near Tora Bora to correspondent John Barry, *Newsweek*.

July

Provided information/coordination to reporter Felix Gillette, *Washington City Paper*, on questions surrounding studies undertaken at AFIP on the brain of Mussolini following WWII.

Steve Jacobs, Discovery Channel, met with Dr. Wayne Meyers, Department of Infectious and

Parasitic Diseases Pathology, to discuss filming top middle school students learning more about mycobacteria and leprosy from him.

Provided information and directed reporter Gary Tanner, *Times Free-Press*, Chattanooga, Tenn, to appropriate Georgia officials for inquiry on AFIP DNA testing in the Tri-State Crematory case.

Coordinated request by AFIP forensic anthropologist William Rodriguez III, PhD, to appear as a rebuttal witness in a California murder trial televised on Court TV and major cable outlets.

Approved interview by writer Beth English with DNA scientist Mike Fasano, AFDIL, for feature on his role with the Institute. Profile to appear in the University of North Carolina-Greensboro alumni magazine.

August

Provided official statement to reporter Jessica Towhey of *Capitol News* regarding the remains of a Navy midshipman found at the Naval Academy.

Provided background information to *Washington Times* reporter Frank Murray regarding the DNA bloodstain cards that are stored at the DNA Repository in Gaithersburg, Md. Murray used the background information for a story he planned to write on the terrorist identifications.

Coordinated a follow-up interview on 9/11's one-year anniversary between COL Charles Pemble, CDR Operations/Air Force Deputy Director and *ADA News* reporter Arlene Furlong. The interview regarded COL Pemble's role in the forensic dental identification efforts for Pentagon and Pennsylvania 9/11 victims.

Provided correspondent Glenn Thrush, *Bloomberg News Service*, with information about software used in the DNA/mass casualty identification process.

Provided information to reporter Patty Davis, *Washington Post*, on cause and manner of death by general category for victims of 9/11 Pentagon attack.

September

Provided background information to the following reporters on the final disposition of September 11 Pentagon attack victims:

- Steve Vogel, *Washington Post*
- George Edmunson, *Cox Newspapers*
- Chuck Hoskins, *Agence France Press*
- Lucy Shakelford, *Washington Post*
- Connie Cass, *Associated Press*
- Trigg Eley, *Journal Newspapers*

October

Arranged interview with Dead Man Talking Productions Inc. producer and Dr. Jose Centeno, chief, Biophysical Toxicology, regarding findings from the hair analysis of poet Edgar Allen Poe. The producer brought along a camera crew and filmed the interview and took additional footage of Dr. Centeno conducting the hair analysis in the lab. The story is scheduled to be featured in a documentary on the Discovery Health channel after February 2003.

Coordinated interview with Dana Hawkins, *US News and World Report*, and COL Brion Smith and Mr. David Boyer, DoD DNA Registry, on differences in DNA databases between the military, state, and civilian sectors. Story focused on access to DNA databases, uses and privacy protections in place.

Gary Matsumoto, *Washington Post*, sought specific confirmation/clarification of AFIP role in the October 2001 anthrax attack investigation.

Reporter Allison Schlessinger, *Associated Press*, Pittsburgh, wanted information about cooperative research and development agreement between Chemicon and AFIP, specifically focusing on a device that can test for anthrax through chemical fingerprinting techniques.

Arranged telephone interview with Jennifer Waters, *Washington Times*, and Dr. William Fishbein on xeroderma pigmentosum (XP) for a broader article on the subject.

November

Provided reporter Debbie Funk, *Times News Service*, with information on AFIP's role in studying military deaths linked to the use of ephedrine.

December

Provided information to Trenette Ledford, *Army Times*, clarifying the use of the Armed Forces Repository of Specimen Samples for the Identification of Remains in light of recent legislative changes focusing on availability of samples in a criminal investigation.

Visits and Briefings: The office coordinated the following visits and briefings in 2002:

1. Flag officers from Joint Chiefs of Staff, briefing and tour.
2. Ms. Valerie Baldwin, Majority Staff Director, House Appropriations Committee, Subcommittee on Military Construction, briefing and tour.
3. US military officers visiting AFIP from the Industrial College of the Armed Forces, briefing.
4. Mr. Edward Chan and Mr. Paul Dickens, DoD, briefing.
5. Representatives from MRMCMC/USAMEDCOM Security, Safety and AT/FP Assistance Team conducting site visit to AFIP, briefing.
6. US Air Force attorneys, US Air Force Medical Law Course, consultants, Andrews Air Force Base, briefing and tour.
7. Army Veterinary Corps junior officers, coordinated briefing and tour.
8. Baylor University Graduate Program in Healthcare Administration military residents, briefing and tour.
9. US Army Dental Corps representatives, briefing.
10. BG William Weightman, USA, MC, Assistant Surgeon General for Force Protection, briefing and tour.
11. Dr. John D. Weete, Assistant Provost for Research and President/Executive Director of the WVU Research Corporation, and colleagues Dr. Bob D'Alessandri, VP, Health Sciences, and Dr. Fred Butcher, Associate VP, Health Sciences, West Virginia University, briefing and tour.
12. Wadsworth Center (NY) staff visit, briefing.
13. Takoma Park Educational Center, middle school students, Washington, DC, briefing and tour.
14. National Youth Leadership Forum, high school students, Washington, DC, briefing and tour.
15. North Hagerstown High School and Hagerstown Community College, high school and community college students, briefing and tour.
16. Rappahannock High School students, Biology II class, Washington, Va, briefing and tour.
17. Dan Gallo, 3rd-year medical student, Rappahannock, Va, briefing and tour.
18. MG Kerim Sahin, commander of the Turkish Army Field Medicine School and Training Center, and senior military officers, briefing and tour.

PRESENTATIONS

1. March 2002: Lancaster, Pa, Franklin and Marshall College, "Overview of forensic pathology topics/careers in pathology," CC Kelly.
2. May 2002: Bethesda, Md, USUHS, Forensic Anthropology Course, "Media relations following mass fatality incidents," CC Kelly.
3. October 2002: Washington, DC, American Society of Clinical Pathologists/College of American Pathologists Meeting, "Pentagon and Somerset County terrorist attacks: a federal perspective of mass disaster operations," CC Kelly.
4. November 2002: Bethesda, Md, AFIP Basic Forensic Pathology Course, "Pentagon and Somerset County terrorist attacks: a federal perspective of mass disaster operations," CC Kelly.

PUBLICATIONS

1. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. February 2002:160(1).
2. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. April 2002:160(2).
3. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. June 2002:160(3).
4. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. August/October 2002:160(4).
5. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. December 2002:160(5).

GOALS

Provide proactive, comprehensive communications strategies to inform the DoD and the worldwide civilian medical community of the AFIP's readiness responsibilities, support for the ongoing health and well being of military personnel, and support for the international medical community.



Bradley A. Lieurance, MAJ, MS, USA
Director
Date of Appointment —4 June 2001

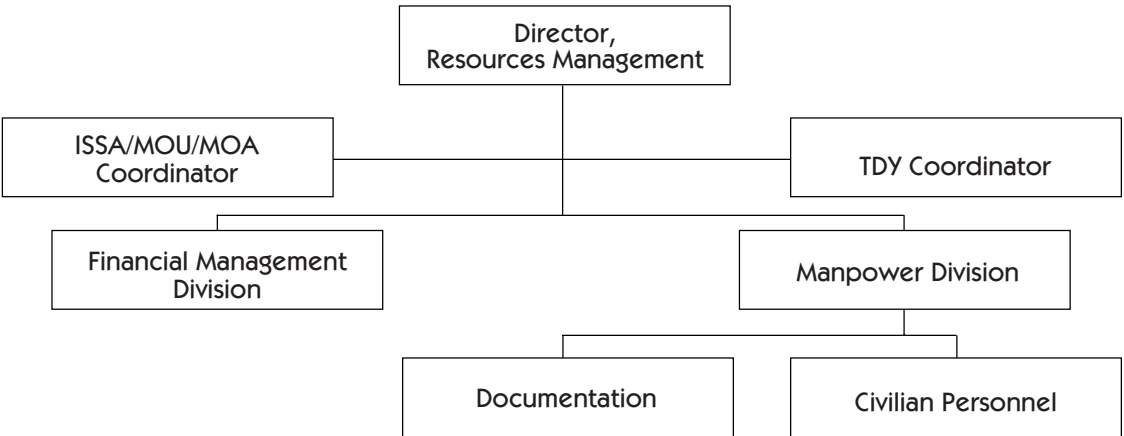


DIRECTORATE OF RESOURCES MANAGEMENT

MISSION

The Directorate of Resources Management provides financial and human resource management, analysis, information, advice, and assistance to the AFIP Director and staff, the Board of Governors, and the Scientific Advisory Board.

ORGANIZATION



STAFF

- Bradley A. Lieurance, MAJ, MS, USA, Director
- Manpower Division**
 - Vaughany Casey, Chief
 - Joyce Jones, Program Assistant
 - Dexter Mallory, Liaison Pay Assistant
 - Tom Tamanaha, Management Analyst
- Financial Management Division**
 - Katie Askew, Chief
 - Mary L. Ward, Budget Assistant
 - Reginald Wilkes, Budget Assistant
 - Debra Jones, Budget Assistant
- ISSA/MOU/MOA Coordinator**
 - Rosalyn Payne, Management Analyst
- TDY Coordinator**
 - Shannon Jackson, HM3

MANPOWER DIVISION

The Manpower Division (formerly the Civilian Personnel Division) was given the TDA Manning Documentation responsibilities in 2002. While the Civilian Personnel Office continued to provide customer service and general administrative assistance to all of the over 300 General Schedule/Wage Grade/Senior Executive System staff of AFIP, the incorporation of TDA Documentation responsibilities closed the loop between the Civilian Personnel Actions from CPAC/CPOC, and the manpower requirements from MEDCOM and Army. During this period, the 0103 and 0105 mobilization TDAs were coded and submitted, which gave the AFIP additional Individual Mobilization Augmentee (IMA) positions in the event of mobilization and to support the Armed Forces Medical Examiner System responsibilities for processing mass casualties. Mr. Tamanaha also developed the Management Control Plan, which included the performance of management control evaluations, development of the 5-year plan, and the Annual Statement of Assurance.

FINANCIAL MANAGEMENT DIVISION

2002 was a difficult but fruitful year for the Financial Management Division (FMD). Through the hard work of the FMD, AFIP was able to receive and execute additional funds for the Patient Safety Center (\$2.085M), Defense Emergency Relief Fund (\$1.676M), CEEP (\$600K), and continuation of the Building 54 Renewal Project (\$21.045M). The Defense Emergency Relief Funds were received as a result of a UFR submission for the support that AFIP provided throughout the year for Operation Noble Eagle and Operation Enduring Freedom. FMD was able to orchestrate a successful year-end closeout, executing 100% of its \$94.6M in Operations and Maintenance, Army (OMA) and Defense Health Program (DHP) funding, and an additional \$4M with Health Facilities Planning Agency for the renovation of Building 54. Additionally, their efforts to energize the reimbursables resulted in AFIP realizing a \$2.1M (55%) increase in that program. FMD also began to interview applicants for the Budget Assistant position. We continued to aim our efforts toward providing better, more timely customer service to the AFIP staff.

TDY COORDINATOR

During 2002, transfer of the Government Travel Card Program responsibilities from the Financial Management Division to the TDY Coordinator began. The coordinator set up a program for tracking and reporting delinquencies to supervisors, to insure that the command met the stringent requirements of the Army Surgeon General's Office.

FY02 FUNDING

DHP Funding Received (Not Fenced)

	FY02 Final
Core Dollars	\$ 40,554,000
Inflation Increase	\$1,667,000
DHP Funding for FY02 (Not Fenced)	\$ 42,221,000

DHP/OMA Funding Received (Fenced)

DHP/OMA ASCPER (OMA Fenced)	\$6,846,000
Counter Narcotics (OMA Fenced)	\$750,000
Gillette Lease	\$2,500,000
DNA (DHP Funds)	\$2,250,000
Persian Gulf Illness (PGI)	\$1,350,000
ACTUR	\$1,200,000
CAP Contract	\$964,500
VID Exhibits	\$236,000
Imaging of Historic Records	\$3,400,000
Patient Safety Center	\$2,085,000
Real Property Maintenance/Minor Repair	\$1,548,300
DERF - Biosurety	\$719,000
DERF - Anthrax Testing	\$347,000
CEEP	\$600,000

DERF Distribution	\$84,500
Command Directed Travel & Tng	<u>\$3,500</u>
DHP/OMA Funding Available for FY02 (Fenced)	\$ 24,883,800
Total Funding Available to AFIP	<u>\$ 67,104,800</u>
Funding to AFIP for Renewal of BLDG 54	
Projects - Renewal	\$ 21,045,000
Physical Security Upgrades	<u>\$525,000</u>
	\$ 21,570,000
Reimbursements Earned	\$5,968,403
Total Funding	\$ 94,643,203



Ronald H. Suter
Safety, Occupational Health, and Environmental Director
Date of Appointment — 6 March 1994



OFFICE OF SAFETY MANAGEMENT

MISSION

The Office of Safety Management was established in March 1994 to develop and manage a Safety Program, as outlined by Army Regulation 385-10, the *Department of the Army Safety Program*. This office monitors guidelines set forth by the Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and the College of American Pathologists (CAP). The office serves as AFIP liaison with the U.S. Army Medical Command (MEDCOM) Safety Office, and coordinates with the following WRAMC departments: Safety Office, Occupational Health, Industrial Hygiene, Health Physics, Department of Public Works, and Fire Department. The office is a member of many safety-related committees, investigates all on-the-job injuries, and maintains a reference library of EPA, OSHA, DoD, and local safety-related publications. In keeping with the DoD goal of pollution prevention, the office operates 5 distillation units that recycle alcohol, xylene, and formalin back to the AFIP laboratories.

STAFF

Ronald H. Suter – Director, Safety, Occupational Health, and Environmental Management
Brenda L. Smith – Manager, Safety and Occupational Health

ACTIVITIES

- The Office of Safety Management is represented on the following internal committees: Safety Committee, Biosafety Committee, BioSurety Committee, Quality Assurance Committee, Space Committee, Installation Safety Committee, Installation Hazardous Substance Management System (HSMS) Committee, Environmental Overwatch Training Subcommittee, Installation Plans and Implementation Subcommittee, and Installation Asbestos Management Team.
- The office has sole responsibility for disposal of all of AFIP's hazardous waste to the WRAMC Hazardous Waste Bunker. This includes making numerous entries in the HSMS, a computerized system mandated by DoD that tracks hazardous substances from receiving through disposal.
- The office presents to AFIP staff all safety training required by OSHA (Hazardous Communication, Bloodborne Pathogens, Fire Extinguisher Training).
- The office has been tasked with the Waste Management Program. This major new mission includes the solvent distillation of xylene, alcohol, and formalin, management of Regulated Medical Waste, monitoring of Hazardous Chemical Waste, and monitoring of the Silver Recovery Program. In November 2002, AFIP received a new piece of equipment that recycles formalin; we are in the process of evaluating this equipment. AFIP's current alcohol and xylene recycling equipment has provided significant cost savings in the past few years. In 2002 the office recycled 190 gallons of alcohol and 295 gallons of xylene, for a savings in purchase and disposal of \$24,989.40. Cost-saving figures are not yet available for formalin.

GOALS

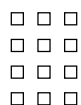
1. Develop a computerized training program to track required training for all AFIP employees.
2. Become more involved in Community Emergency Planning Programs and resource levels.
3. Establish and publish a monthly or quarterly safety newsletter.
4. Expand the AFIP Safety Program to more thoroughly investigate occupational illnesses and injuries.
5. Research the possibility of substituting nonhazardous chemicals for the current hazardous chemicals.
6. Continue to participate in the development and management of an Institute-wide occupational/industrial medicine program.
7. Investigate the feasibility of distilling alcohol, xylene, and formalin for all Walter Reed facilities.

NATIONAL MUSEUM OF HEALTH AND MEDICINE





Adrienne Noe, PhD
Director
Date of Appointment — September 1995



NATIONAL MUSEUM OF HEALTH AND MEDICINE, AFIP

MISSION AND ACTIVITIES

The National Museum of Health and Medicine (NMHM) promotes the understanding of medicine, past, present, and future, with a special emphasis on American military medicine. It inspires interest in personal and public health. As the nation's museum of health and medicine since 1862, we aggressively identify, collect, and preserve important resources to achieve a broad agenda of innovative exhibitions, educational programs, and scientific, historical and medical investigations.

To achieve this, we promote the responsible use of the nation's National Historic Landmark collection by continuing to expand and catalog the collections, to record detailed information about the holdings and to edit record to make databases available for the Internet, which allow the collection to be more accessible to researchers. We cultivate ties with professional medical societies and with the DoD to assist in collecting artifacts significant to the history of the practice of medicine and the evolution of medical technology, emphasizing military medicine. Finally, we collect, preserve and interpret modern examples of significant medical technology to document the history of the practice of military medicine and the evolution of medical technology to ensure the continued development of the National Museum of Health and Medicine, AFIP, as a DoD asset and as a national and international resource for the military medical community, professional health care workers and the general public.

In so doing, we emphasize the Museum's focus on critical public and military health issues, the importance of the Museum as a bridge between biomedicine and the general public, the Museum's role in helping to recruit the health professionals of tomorrow, and the Museum's research programs in medical history, medical imaging, and other areas.

ORGANIZATION

The Museum is organized into the Office of the Director, Public Programs and Exhibitions, and Collections and Research.

OFFICE OF THE DIRECTOR

STAFF

Adrienne Noe, PhD, Director
Donna R. White, Administrator
Steven Solomon, Public Affairs Officer
Theresa Butler, Staff Assistant
(D) Cynthia Muldrow, Administrative Support Assistant
Rachel Coker, Public Affairs Assistant
Maurice Young, Special Events and Facilities Manager
Shelly Currie, Visitor Services Representative
Nicole Gunter, Visitor Services Representative

Stacie Bland, Visitor Services Representative
Melba Stewart, Visitor Services Representative

The Office of the Director oversees the general activities and governance of all aspects of the Museum and provides policy, technical, and scientific direction. It directs all activities for the site, facility, and programs of the Museum as its activities evolve. Specific activities handled within the office are external and internal relations, governmental affairs, collections development, press and public relations, inter- and intra-institutional collaborations and all aspects of institutional development. The office works with print and broadcast media, congressional offices, and local, national, and community organizations. The administrative support staff continues to improve the quality of support provided to the departments of the Museum. This administrative group provides a variety of management services essential to the operation of the Museum in the areas of budgeting, manpower/personnel, contract administration, and organizational management. The office provides general supervision of the Office of Public Affairs, Programs and Exhibitions, and Collections and Research.

The Office of the Director communicates and coordinates with the American Registry of Pathology (PL94-361) for the operation of the Gift Shop and with numerous public and private organizations for institutional development, through the ARP. The Director is a member of the AFIP Executive Committee and an Associate Director of the AFIP.

Promotion of Museum programs continues to accelerate in collaboration with professional medical and scholarly societies, and other groups, and with such federal organizations as the National Institutes of Health, the National Science Foundation, the Smithsonian Institution, and the Uniformed Services University of the Health Sciences. Other groups with which the Office worked include the Howard Hughes Medical Institute, the Osler Society, the American Academy of Orthopedic Surgeons, Aerospace Medical Association, the American Anatomical Association, the American Association of Clinical Anatomists, the National Academy of Sciences and many local special interest groups. Office staff members have also supported activities at WRAMC's Ward 72. Fifty-one informal and formal lectures regarding the Museum and its mission were given.

Exhibition development activities continued ongoing work with federal organizations (DoD, Department of Health and Human Services, etc) and the Director served in advisory capacities for the development of the new Cold Spring Harbor Dolan DNA Learning Center, the Stetten Museum of the National Institutes of Health, the National Veterans Affairs Museum, and the congressionally sponsored Montgomery County Science Education Initiative. In addition, the Museum continued its national observance of the 50th anniversary of the Korean Conflict with the display of its exhibition on its medical aspects and offering complementary public programs. Significant in-kind support for the promotion of the exhibition "eMotion: An Exhibition of Orthopaedics in Art" was received from the American Association of Orthopedic Surgeons. In increased collaboration with AFIP staff, we produced the next in a series called "Research Matters," an exhibition about arsenic occurrence worldwide and the consequences of exposure to it. In partnership with Alexander Tsiras and his organization, Anatomical Travelogue, Incorporated of New York, New York, the Museum put on the exhibition "Conception to Birth" and reinvigorated the popular human development exhibition. These activities and others facilitated increased public outreach and expanded media activities, while opportunities to increase accessibility to museum assets continue to be pursued at WRAMC and beyond.

As part of a continued effort to increase the effectiveness of the Museum's budget and staff efforts, the staff has accelerated its participation in collaborative projects with other universities, museums, and federal agencies. Activities include joint programming, collection collaborations, and shared exhibition development. During 2002, work continued on several extramurally funded research projects, entailing collaborations with numerous federal, state-level, and local groups. In this vein, monthly health awareness events coordinated with the local 501 c 3 organization "Health Pact, Incorporated," are increasingly successful, as is the annual involvement with the Dana Alliance for Brain Initiatives during National Brain Awareness Week. Collections development has proceeded apace, and the office appreciates all Museum donors. Donations of internationally significant items continue to advance the Museum's role as the national repository of holdings documenting the history of medicine and medical research.

GIFT SHOP

On October 29, 2002, the Museum opened its Gift Shop and operates as a Cooperative Business Enterprise between the American Registry of Pathology and the Armed Forces Institute of Pathology. It serves 4 main purposes: to offer a convenience to the members of the local

community; to advance marketing efforts of the Museum and Institute; to extend the effectiveness of the Museum's programs and exhibitions by selling objects related to Museum activities; and to generate revenue. The Gift Shop has received many laudatory comments about its inventory of the items and books that can be purchased. Each object has a distinct connection with the Museum's mission and/or exhibits that are displayed.

FACILITIES AND SPECIAL EVENTS

The Museum's Facilities and Special Events staff, in conjunction with the AFIP Directorate of Logistics Department, support and offer consultation to the NMHM in the following areas: physical security, storage, movement, maintenance; repair and accountability of materials, housekeeping; exhibit upkeep and maintenance; waste collection and disposal, and notifies the Provost Marshal of museum visitation on to the Walter Reed Army Medical Post. This department serves as NMHM liaison with the AFIP Office of Safety Management. It also maintains an inventory of all hazardous chemicals located within the Museum, serves as a member of many safety-related committees, and investigates all facilities safety issues concerning staff and visitors.

During the 2002 calendar year, the Facilities Department assisted in disassembling temporary exhibits, repaired and painted exhibit space for new exhibits, renovated assigned space for the Museum Gift Shop, and coordinated service requests to the AFIP Logistics Department to assist in updating the Museum to safety regulations.

Special Events Staff supports the NMHM in its mission to support the AFIP, WRAMC, and the surrounding community by hosting and scheduling events such as the Annual National Student Leadership Conference, the National Counsel of Negro Women's Annual Black Family Reunion kick-off reception, WRAMC's Medical Management of Chemical and Biological Casualties Training Course, the Soldier's Skilled Training Course Graduation, Washington Society for the History of Medicine monthly meetings, the Department of Medical Education's Medical Education Course, and the very prestigious annual Ash Lecture.

The Special Events Branch of the Facilities Department has written and updated standard operating procedures for Museum meetings and receptions that are given to the individuals hosting events at the Museum. The office staffs and secures each event with Visitor Service Representatives who are trained in customer service. The office provides information about DoD-certified specialty caterers who are familiar with the policy and procedures of the Museum and assists in supplying the presenters' audio/visual needs.

During the 2002 calendar year, the Museum hosted 20 major events with over 8,000 participants.

PUBLIC AFFAIRS

During 2002, the Museum's Public Affairs Office continued marketing efforts and strengthened relationships within the business, museum, and tourism communities to increase awareness of the Museum throughout the Washington, DC metropolitan area, and among tourism and military audiences.

There are various community organizations in the area, and the museum maintains a relationship and cultivates ties with as many area grassroots and cultural-based organizations as possible in order to better position itself as a significant historical, community, and cultural attraction.

The Museum remained an active member of the DC Heritage Tourism Coalition, a consortium of more than 80 cultural and community organizations in Washington, DC with a common goal to strengthen the image and the economy of the District of Columbia by engaging visitors in the diverse heritage of the city beyond the National Mall and monuments. Through the DC Heritage Tourism Coalition, the Museum received prominent recognition in its publication providing an inventory of all DC cultural attractions by neighborhood and theme. The Museum benefits from other efforts organized through the DC Heritage Tourism Coalition, such as collaborative marketing materials, a joint product-licensing program, and a Neighborhood Heritage Trail tour along the Georgia Avenue corridor.

The Museum also increased its ties with the DC Convention and Visitors Association, the District of Columbia Chamber of Commerce, and the Washington, DC Convention and Tourism Corporation.

The Museum remained a designated site on the Civil War Discovery Trail, which was named one of 16 National Millennium Trails in the United States by the White House. As a result, the Museum received recognition in marketing and promotional materials produced by the Civil

War Trust at no cost.

The Museum responded throughout the year to requests for information or assistance received by e-mail, telephone, and mail from the general public. An example of a request handled by a Museum staff member during 2002 is, "I am a ninth grade student at Thomas Jefferson High School for Science and Technology. I am doing a project on Black Death and its effects both on the Renaissance and the modern day. My biology teacher ... highly recommended your museum and gave me your information pamphlet. I was wondering if I could ask one of your staff members a few questions regarding my project. Thank you for your time!" Such requests are numerous throughout the year and each receives individual attention, with Museum experts sharing information as well as pointing students to research resources both at the Museum and elsewhere.

Marketing

Working closely with the Museum's Public Programming Department, Public Affairs placed an emphasis on promoting programs and workshops to the local community to raise awareness of the Museum's educational offerings and to increase program attendance.

Print advertisements for the Museum and its exhibits and programs appeared in:

- Best Bets (annual circulation: 750,000) distributed in the Washington, DC metro area to Martz/Gray Line Tour riders, 65 hotels, DC and Virginia visitor centers, etc.
- Families Magazine (monthly circulation: 100,000) distributed in the Washington, DC metro area to public and private schools, libraries, Barnes and Noble, hospitals, doctors' offices, Fuddruckers, Zainy Brainy, etc.
- MAP Washington (annual circulation: 1 million) distributed in the Washington, DC metro area to Maryland and Virginia Welcome Centers, hotels/motels, car rental agencies, taxi cab companies, congressional offices, etc.
- Museums Washington Magazine (quarterly circulation: 150,000) distributed to concierges and in rooms at more than 80 hotels in the Washington, DC area.
- Washington Flyer (bimonthly circulation: 180,000) distributed at Ronald Reagan National and Dulles International airports.
- Where Magazine (monthly circulation: 100,000) distributed to 128 hotels through in-room and concierge desk in Washington, DC, Virginia, and Maryland, such as Four Seasons Hotel and Hay-Adams Hotel and more than 30 embassies.
- As an element of the AFIP, the Museum also reached the local military community through publication of print advertisements in the 9 newspapers of Comprint Military Publications that support are distributed at the government installations within the National Capital region: Pentagon (weekly circulation: 27,000); The Beam (weekly circulation: 15,000); The Journal (weekly circulation: 10,000); Henderson Hall News (weekly circulation: 5,500); Gazette (weekly circulation: 37,000); Stripe (weekly circulation: 10,000); Standard (weekly circulation: 6,000); Trident (weekly circulation: 11,000); and Sea Services Weekly (weekly circulation: 10,000), reaching a combined circulation of more than 130,000.

A special effort was made during 2002 to promote "eMotion Pictures: An Exhibition of Orthopaedics in Art." This traveling art exhibit featured work by artists whose lives were touched by an orthopaedic condition and the physicians who treat them. It was on display at the Museum from March 15 through August 15. There was significant coverage following the exhibit's grand opening gala, where the featured guest speaker was David N. Tornberg, MD, FACS, Deputy Assistant Secretary of Defense for Clinical and Program Policy in the Office of the Assistant Secretary of Defense for Health Affairs. The Lancet published a full-page story about the exhibition and color ads were placed in the Washington Flyer magazine, Where Washington magazine, and Comprint Military Publications.

Media Coverage

The Museum increased its writing and distribution of press releases to the media in 2002, resulting in increased media exposure. More than 300 stories and newsbrief items were printed in 2002, in publications with a combined circulation of more than 21 million. (Source: Bacon's Information Clip Review). This coverage appeared in local, national, and international publications, as well as on TV and radio stations, the most notable being a major Reuters News Service feature article and a major feature story in *The New York Times*. Some highlights are:

"Readers might be surprised to learn that some of the most cutting-edge, high-tech digital images of embryos are actually portraits of an embryo known as Carnegie No. 836, now 88 years old and going strong...Computer-imaging technologies have given 836 a

new lease on life. Residing now at the National Museum of Health and Medicine in Washington, each section of 836 has been digitized, scanned into a computer for online 3-D reconstruction and information sharing. The specimen is now available in CD ROM and DVD formats that allow viewers to fly through the embryo from top to bottom. New software is being developed that will incorporate 836 into a quick-time movie, making a succession of dead embryos appear to grow before our eyes. Today's audiences obviously prefer their embryos animated."

Seattle Post-Intelligencer, November 29, 2002

"In honor of Veterans Day, check out these exhibits that focus on US Armed Forces...at the National Museum of Health and Medicine, "Research Matters: 9/11, The Armed Forces Institute of Pathology Responds" shows how the organization reacted to the 2001 terrorist attacks."

Where Washington, November 2002

Similar articles appeared in:

USA Today, 11/7/2002
Time Magazine, 11/4/02
Stripe, 9/20/02
Science Magazine, 9/6/02
Washington City Paper, 8/16/02
Budget Travel, September 2002
The New York Times, 8/6/2002
Pentagram, 8/2/2002
Washington Families Magazine, July 2002
Where Washington, July 2002
Stripe, 7/12/02
Washington City Paper, 7/5/02
USA Today, 7/2/02
The Lancet, 6/29/02
The Washington Post, 6/25/02
ThingsToDo.com, 5/30/02
Museums Washington, Spring/Summer 2002
Reuters, 4/16/02
Sunday Washington Post, 4/14/02
Union City (Tennessee) Daily Messenger, 3/7/02
The Philadelphia Tribune, 3/5/02
Franklin (Louisiana) Banner Tribune, 2/27/02
Richmond (Kentucky) Register, 2/26/02
The Baltimore Sun, 2/19/02
The Lancet, 2/9/02
The Frederick News- Post, 2/6/02
Around Washington, DC With Kids, February 2002
Reading, Pa, Eagle/Times, 1/3/02

Also, in 2002, the museum's staff met with and/or was interviewed by media representatives for stories or documentaries on:

- ABC-TV News
- CNN
- CNN Newsource
- C-Span
- Discovery Channel
- Discovery Health Channel
- Fox News Channel
- History Channel
- Japan Broadcasting Corp
- KGMB 9 News (Honolulu, Hawaii)

- KSFN-AM (Las Vegas, Nev)
- National Geographic
- National Geographic Explorer
- News Channel 8 (DC Metro)
- WGY-AM (Albany, NY)
- WJLA-TV 7 (Washington, DC)
- WGY-AM (Albany, NY)
- WRXK-FM (Fort Myers, Fla)
- WUSA-TV 9 (Washington, DC)

Museum Newsletter

The Museum's newsletter, "Flesh and Bones," was published 12 times during 2002, 4 more than in 2001. In addition to being distributed internally to the departments of the AFIP, the newsletter was mailed to the Museum's mailing list, which includes the media, schools, libraries, and visitors who have signed up to receive information by mail. It contains articles that are researched and written by the museum staff about new exhibits, special programs, recently acquired artifacts, loans to other museums, grants and other activities.

The World Wide Web

The Museum Public Affairs Office was principally involved in expanding content on the Museum Web site to include information about new temporary exhibits, such as "Conception to Birth," based on a book by Alexander Tsiras that traces the growth and development of human life. In addition, the Museum worked with its Webmaster to post information about upcoming programs and events in a timely manner. The Museum also continued to pursue opportunities to be added to other museum and tourism Web sites. According to the Web site's traffic report provided by Web Trends, the Web site is averaging more than 6,000 hits daily with the average unique viewer looking at 5 different pages for more than 8 minutes during each visit to the Web site.

The museum ensures accurate and timely information is provided to online Web site information resources, such as:

DC Chamber of Commerce at <http://www.dcchamber.org/>.

DC Heritage and Tourism Coalition at <http://www.dcheritage.org/index.htm>.

DC Visitor Information at <http://www.dcvisit.com/>.

WETA ExploreDC at <http://www.exploredc.org/>.

Washington, DC Convention and Tourism Corporation at <http://www.washington.org/index>.

Museums of the World in Germany at www.museum.com

Global Museum at www.globalmuseum.org

DEPARTMENT OF PUBLIC PROGRAMS AND EXHIBITIONS

MISSION

The division directs and coordinates operational and interpretive components of the Museum. This includes administration, exhibitions, public programs, educational tours, facilities use, and related activities. Division staff worked with governmental agencies, professional associations, museums, and individuals to develop interpretive strategies that promote greater public awareness of contemporary and historical perspectives on disease, public health, and health education.

STAFF

James Carey Crane, Exhibits Manager
 Jeffrey Mitchell, MA, Visual Information Specialist
 Janet Melson Burns, MA, Public Programs Coordinator
 Vacant, Tour Program Manager
 Sandra V. Saluke, MAT, Educator

DOCENTS

Sal Battiata, MD; Ed Beeman, MD; Catherine Bonomo, BS; Jacqueline Burton, BSN; Edward

Byrdy, BS Ph; James DePersis; Ira Green, MD; Marjorie Hughes, MD; Regina Hunt; Albert Jacobs, MEE; Marianne Jessee, MS, MGA; Gail Katz, BS; LaVerne Madancy, MA; Kay McMahon, BS; Richard Mulvaney, MD; Sol Pargament; Colleen Pettis, MA, MS; Anne Pollin; Anthony Rondello; Enid Rosen, BS; Karen Sanders, MS; MSGT Christian Sepulveda, AS; George Sharpe, MD; Shen Sung, MD; Stephen Schiaffino, PhD; Caroline Whittenberg, MSN; and Alan Winshel, MD.

MUSEUM VOLUNTEERS

Gloria Feeney
Michael Mendelson, AA
S. Steven Schiaffino, PhD

VISITOR SERVICES

Overall attendance decreased by 1.9 % over last year. The number of guided tours decreased, with guided tour attendance also decreasing by 59%. The number of unguided tours increased by 6.3%, with visitors participating in unguided tours increasing by 3.6%. In 2002 the number of individuals attending public programs decreased by 21%.

In addition to the September 11th terrorist attacks in 2001, which negatively impacted our attendance, the October 2002 sniper attacks in the metropolitan Washington, DC area also caused a drop in tour group attendance. Many local school districts restricted field trips, which decreased school tour attendance for the 2001-2002 school year and during the sniper attacks. WRAMC implementation of restricted access conditions following the terrorist attacks, which continued to limit access to the post and Museum throughout 2002

PUBLIC PROGRAMS

Programming presented in conjunction with the exhibit "To Bind Up the Nation's Wounds: Medicine During the Civil War" included a talk by Lenore Barbian, PhD, assistant curator of the Anatomical Collections and screening of the film "Glory" in February. Dr. Barbian's lecture provided information on many items included in a special display of specimens belonging to black soldiers who fought during the Civil War. "Glory," an Academy Award-winning film, tells the story of the Union's all black 54th Regiment and its struggle to defeat prejudice and neglect to prove itself worthy in battle.

In July the Museum presented a reenactment of General Daniel E. Sickles' annual visit to the museum to view his amputated leg on display. Gregory Johnson, a Civil War lecturer, historian, and member of the Civil War Heritage Foundation portrayed the famous Major General, revealing insights into the life of this Civil War Union officer. Sickles would visit his leg that he donated after it was amputated as result of a battle injury every year on the anniversary of the amputation. His tibia and fibula are the most visited specimens on display at the Museum. Also included in this program was a talk by Dr. Lenore Barbian which highlighted several medical procedures used to save lives during this war. She also pointed out specimens that illustrated the types of injuries encountered on the battlefield.

In conjunction with the exhibition "eMotion: An Exhibit of Orthopaedics in Art," a 3-hour program entitled "Exercise for a Healthy Skeleton" was presented. This program was designed to allow younger audiences the opportunity to explore the human skeleton and its functions, as well as learn how to strengthen bones and joints through proper nutrition and exercise. This program was offered in April and September and will continue to be offered in 2003.

In April the museum presented "Sense of Smell Day," a program that celebrated the olfactory system and the important role it plays in our everyday lives. This program was designed to give children and adults opportunities to learn more about the significance and benefits of the olfactory system through lots of hands-on activities and presentations. Tabitha Viner with the Division of Veterinary Pathology at the AFIP revealed how different the olfactory systems are in various animals compared to the human olfactory system. Archie Fobbs, curator of the Neuroanatomical Collection, and Surinder Sandhu, PhD, assistant curator of the Neuroanatomical Collection, presented hands-on presentations illustrating how the brain detects and processes olfactory messages. Marjorie Hughes, MD, and Regina Hunt, Museum docents, presented "Smelly Concentration," game of memory and discerning olfactory skill. This program will continue as an annual event for the Museum.

Paul Sledzik, MS, the museum's curator of Anatomical Collections, presented the lecture "Vampires: Truth Behind the Fiction" for the museum's annual Halloween program was presented in October. This program also included "Forensics Mystery" workshops that allowed children and adults to participate in hands-on activities designed to gain a better understand-

ing of forensic science. The participants closely examined replicated skeletal remains, dental evidence, and fingerprints to determine to whom, among the list of missing persons, these remains belonged.

Students learned about worms, bacteria, protozoa and viruses at the Museum in November when they attended "Germ Fest," a new program designed especially for middle school students. Through lectures and hands-on activities, students were given opportunities to learn how germs and contamination cause illnesses, infections and diseases. Ronald C. Neafie, MS, Chief, Parasitology Branch, and Ann M. Nelson, MD, Chief, AIDS Pathology and Emerging Infectious Diseases Branch of the Division of Infectious and Tropical Diseases Pathology at the AFIP, were presenters at the program. Mr. Neafie gave students a better understanding of parasites and how they transmit and cause disease, while Dr. Nelson revealed how HIV affects the body and how medications are used to treat HIV infection. Marianna Jessee, MS, MGA, a microbiologist retired from the NIH and a Museum docent, provided opportunities for students to compare various germs using microscopes and enlarged printed images of slide samples. Sandy Saluke, the Museum educator, presented a plenary lecture on what germs are, their variations and different sizes. Jacqueline Burton, BSN, a retired nurse and Museum docent, took charge of the "Germ Scavenger Hunt," a game that had students search exhibits for examples of diseases caused by germs.

OTHER EVENTS AND PROGRAMS

NMHM collaborated with American University, Howard University, University of Maryland, the NIH, WRAMC's Head Trauma Department, and the Dana Alliance for Brain Initiatives to present the annual "Brain Awareness Week" program in March 2002. This week-long program offered middle and high school students the chance to interact with local neuroscientists. They also got to see, touch and learn all about the human brain. Burton M. Slotnick, PhD, Department of Psychology at American University; Martha I. Davila-Garcia, MD, professor of pharmacology at Howard University; Lisa Sanders, PhD, of the Cognitive Neuroscience of Language Laboratories at the University of Maryland; Catherine Sasek, PhD, of the National Institute on Drug Abuse (NIDA) of NIH; Cindy Miner, PhD, of NIDA of NIH; Dave Thomas, PhD, of NIDA of NIH; Marina Voklov, PhD, of NIDA of NIH; Charles Desbourdes, PhD, of NIDA of NIH; Dennis A. Twombly, PhD, of the National Institute on Alcohol Abuse and Alcoholism (NIAAA) of NIH; Roger Sorenson, PhD, of NIAAA of NIH; Beth Molloy of the National Institute of Mental Health (NIMH) of NIH; Jay Gieed, MD, of NIMH of NIH; Barry Kaplan, MD, of NIMH of NIH; Lynn Hudson, PhD, of National Institute of Neurological Disorders and Stroke of NIH; Lisa Moy Martin and Alice Marie Stevens with the Head Trauma Department at WRAMC; NMHM's Archie Fobbs and Surinder Sandhu presented lectures, hands-on activities and technical demonstrations that highlighted various brain functions and disturbances. Over 600 students participated in this the 5-day program.

In March "Doctor for a Day," a workshop for children and adults, was presented in collaboration with the Smithsonian Institution's Young Associates Program and Immersion Medical, a company specializing in creating computer software and equipment designed to teach medical professionals medical procedures and techniques. This workshop gave participants opportunities to explore the inner workings of the human body and learn about medical procedures that are used to keep different parts of the body functioning. Adult-child pairs toured the exhibit "Human Body, Human Being" and practiced on simulated medical instruments to experience virtually drawing blood, inserting a catheter and performing a bronchoscopy. Archie Fobbs also provided a hands-on station that allowed the participants to see, touch and hold a brain, as well as see where the olfactory system is located in the brain.

This year marked the second year that the Museum has presented "National Health Awareness Kickoffs" in collaboration with Health Pact, Inc, a local nonprofit company that assists community organizations by securing medical personnel, community groups, and medical supplies to perform certain medical screenings at health fairs, to present. This collaboration began in May 2001 and continues to be an important part of the Museum's on-going programs. National Health Awareness Kickoffs are held the first Saturday of each month to acknowledge and explore specific health issues. Medical professionals provided in-depth information on the selected health issue of the month and provided free health screenings for Museum visitors interested in the state of their health.

The Museum partnered with the National Kidney Foundation of the National Capital Area in March to present "Project Prevention," a screening and education program designed to help individuals determine their risk for the development of kidney disease and screen for potential problems.

Teacher Workshop/Open House

Local area teachers and educators received a special preview of a guided tour that school students receive at the Museum. Adrienne Noe, Paul Sledzik, Surinder Sandhu, Elizabeth Lockett, imaging specialist and manager of the Human Developmental Anatomical Center; and Jim Connor discussed ways that the Museum's collections may be used to help teachers address curriculum requirements in the classroom.

Ongoing Programs

The Museum continued to offer guided tours to walk-in visitors on the second and fourth Saturdays of each month.

Tour/Docent Program

In addition to the general tour, which introduces visitors to the highlights of the exhibition galleries, the following Curriculum Connection tours were offered during 2002: "Human Body, Human Being" and "To Bind up the Nation's Wounds: Medicine During the Civil War." The "Forensics Mystery" workshops continue to be popular hands-on activities for students, families and adults.

Docents, Museum staff, and AFIP staff benefited from educational presentations made at monthly docent meetings. Charlotte Boston, ATR-BC, a board-certified art therapist with WRAMC's Inpatient Psychiatry, discussed the history of this method of treatment and how psychiatrists and psychologists gather insightful information from the art that patients create. Dr. William Hartland, Jr., PhD and CRNA, a Revolutionary War re-enactor and a professor at Virginia Commonwealth University, presented a talk on medicine and medical procedures used during the Revolutionary War. Jacqueline Wieneke, MD, from the Department of Endocrine and Otorhinolaryngic and Head-Neck Pathology in AFIP lectured on the olfactory system. Barbara Green, American Red Cross (ARC) Station Manager for WRAMC described the work of ARC in assisting victims of disaster, as well as ARC's response to the September 11, 2001 terrorist attacks. Kimberlee Potter, PhD, technical director of the Magnetic Resonance Imaging (MRI) Microscopy Facility of AFIP, talked about MRIs and how they work, as well as her research using this technology. These presentations continue to be a critical element in the ongoing training of docents and staff.

EXHIBITIONS DIVISION

RESEARCH MATTERS EXHIBIT

"Research Matters" is a changing exhibit established in 1996 to inform visitors of recent contributions by the AFIP research to US military medicine and to public health. Opening May 29, 2002, "Research Matters: 9/11, The Armed Forces Institute of Pathology Responds," featured photographs never before seen by the public, taken by AFIP staff during commission of their duties. Participant's personal and professional reflections illuminated the photographs. The AFIP successfully identified 184 Pentagon victims, provided positive DNA identifications on all 40 Pennsylvania victims, and developed genetic profiles of the terrorists that could not be matched to any of the other victims. A team of more than 70 AFIP personnel was assembled, including civilians and members of every branch of service, to perform forensic pathology, forensic odontology, forensic anthropology, photographic work, and DNA services to identify victims. AFIP staff were sent to the Dover Port Mortuary at Dover Air Force Base in Delaware, to the Pentagon crash site, and to Somerset County, Pa. At the AFIP's Armed Forces DNA Identification Laboratory (AFDIL), more than 45 forensic scientists and support personnel provided critical DNA expertise.

TEMPORARY EXHIBITS

In September "Research Matters: 9/11, The Armed Forces Institute of Pathology Responds," was supplemented by "Reflections on Freedom," a presentation of essays by military and civilian forensic and other medical professionals associated with the Armed Forces called upon to recover and identify victims of the September 11, 2001 terrorist attacks. Essays explained how the respondents served to reaffirm and protect the freedoms of Americans, including freedom to assemble, freedom to create, freedom to worship, freedom to inquire, freedom to express ideas, and freedom from fear.

Artist Suzanne Fierston of Gaithersburg, Maryland, was inspired by the permanent exhibit "Evolution of the Microscope" to create "In Focus," a series of 7 watercolor renderings of microscopes. The series was displayed within the exhibit hall, which features examples from

the Billings collection, the world's most comprehensive chronicle of microscope development. The series was previously exhibited at Lombardi Cancer Center at Georgetown University Medical Center.

Links between the medical arts and humanities continued to be explored and celebrated within Silliphant Hall, the Museum's 1,430-square-foot changing installation space, and in the adjacent gallery. Museum staff supplemented and installed one traveling exhibit, "eMotion Pictures: An Exhibition of Orthopaedics in Art" and curated, designed, and installed a second exhibit, "Conception to Birth."

"eMotion Pictures: An Exhibition of Orthopaedics in Art," a traveling art exhibit featuring work by artists whose lives have been touched by an orthopedic condition and the physicians who treat them, was displayed from March 15, 2002 through August 15, 2002. Organized by the American Academy of Orthopaedic Surgeons (AAOS), jurors selected 165 pieces for the show from 1,400 slides depicting works of art that were submitted by orthopedic surgeons and adult and child artists with orthopedic conditions, representing 17 countries and 43 states. From these works, Museum staff chose 36 to be exhibited at the NMHM. Several pieces from the Museum's anatomical collection and a dinosaur humerus loaned by the American Museum of Natural History, Washington, DC augmented the AAOS artwork in the exhibition. The exhibit included 2 installations created specifically for the NMHM exhibition by local artists Pia of Potomac, Md, and Carmen Trujillo of Washington, DC. Kathleen Fletcher's art class at Walter Johnson High School in Bethesda, Maryland showed 13 original drawings of the skeletal system.

"Conception to Birth," exhibited from October 29th thru August 29, 2003, chronicled the growth and development of human life through more than 80 images, an interactive display, and a 10-minute video. The exhibit was based on a book "From Conception to Birth: A Life Unfolds" by Alexander Tsias, text by Barry Werth. By using a new medical imaging technology, Tsias was able to capture images of the developing baby from never before seen angles. Many of the images in the exhibit and book are from the museum's Carnegie Human Embryo Collection, which primarily focuses on normal development in the first 8 weeks of pregnancy. "This exhibit takes the visitor through a visual journey of the development of life," said Tsias. "It also gives them an understanding of the medical imaging technology used to create the exhibit."

National History Day Program Exhibits

Seven young historians and their families were invited to the Museum to display projects they created for 24th National History Day (NHD), an annual competition of more than 700,000 students in grades 6-12. This year, students competed to convey the theme "Revolution, Reaction, Reform in History." After setting up their exhibits, the students and their families were given tours by museum staff and curators. They also answered questions about their projects and were awarded a plaque. The projects, 3 displays and 2 documentaries, were on display at the museum from June 12 through October 1.

Emily Fusco, a student at A.C. Reynolds Middle School in Asheville, NC, worked for several months to create "The Face of the Enemy: Leeuwenhoek's Germs." Dana Gearity, Genesis at Xaverian, Brooklyn, NY exhibited "Thalidomide: A Personal Revolt Revolutionizes National Reform." Alexa Zolkower, a junior at Dunedin High School in Dunedin, Fla, created "Burke and Hare: The Uncovered Bodysnatchers."

Gerald Creech from Waldorf, Md screened his documentary "Medicine During the Civil War." Tom Schroeder, Allen Murugan and Nick Huster of teacher Mary Lou Waters' sixth grade class from Sycamore School in Indianapolis, Ind, worked together to produce a documentary titled "Prozac: Revolutionizing the Perception and Treatment of Depression." The Museum has hosted displays of the exhibits and documentaries during the summer since 1998.

DEPARTMENT OF COLLECTIONS

The Collections Department preserves materials representing the broad subject areas related to the history and practice of American medicine, military medicine, and modern medical and health issues and research. Each collecting division specializes in different media and subject areas. The division's responsibilities are to (1) provide the highest level of professional care for the NMHM collections and their associated documentation; (2) collect objects, specimens, and related archival materials deemed significant and relevant to the mission of the NMHM; and (3) support research, exhibits, and public programs through access of collections.

STAFF

Jim T.H. Connor, PhD, Assistant Director of Collections
Lenore Barbian, PhD, Assistant Curator, Anatomical Collection
Alan Hawk, BA, Collections Manager
Donna Quist, BA, Assistant Collection Manager
Paul Sledzik, MS, Curator, Anatomical Collection
Michael Rhode, BA, Archivist
Tabitha Oglesby, MA, Assistant Archivist
Michael Simons, Registrar

ANATOMICAL COLLECTIONS

Anatomical Collections collects and preserves human and nonhuman medical, pathological, and anatomical specimens and associated materials documenting normal anatomy and the response to disease and injury.

Education

The staff of the Anatomical Collections conducted the 15th Annual Forensic Anthropology course at the Uniformed Services University of the Health Sciences from May 6-10, 2002. Participants numbered 52. Planning for the 2003 course was undertaken.

In March 2002, Paul Sledzik and Lenore Barbian served as laboratory instructors for the forensic anthropology component of the Forensic Identification and Emerging Technologies course.

Exhibit Support

Lenore Barbian served as curator and project manager for "United States Color Troops." Paul Sledzik served as curator and Lenore Barbian as curatorial assistant for "From a Single Cell." They both provided curatorial assistance for the installation of "Conception to Birth" and for "eMotion Pictures: An Exhibition of Orthopedics in Art."

Media Involvement

Apartment 11 Productions, "Mystery Hunters," segment on New England vampire folklore research, P Sledzik.

Associated Press, November 15, 2002, "Indian Warrior's Bones to Be Buried" by R Gehrke, L Barbian.

CSPAN segment on unique Washington museums, P Sledzik.

Denver Post, November 17, 2002, "Sen. Campbell helps reunite ancestor's bones Museum had great-grandfather's leg" by B McAllister, L Barbian.

History Channel, "This Week in History," P Sledzik.

National Geographic Television, analysis of potential human remains for documentary on shark attacks, P Sledzik.

News Channel 8 (Washington, DC): Healthline segment on identification of United 93/September 11 victims, P Sledzik.

Reuters, April 17, 2002. "Museum displays flesh and bones of history." by M Gabriel, P Sledzik.

The Discovery Channel, "Unsolved History: Forensics in the White House," L Barbian.

Research Requests: 43

Repatriations Under Nagpra

June 27, 2002: the Klamath Tribes

July 17, 2002: Comanche Tribal Business Committee

October 15, 2002: the lineal descendents of Black Horse from the Northern Cheyenne Tribe

Other Activities

The staff of the anatomical collections provided 14 lectures/presentations to school groups at the NMHM/AFIP and in the DC metropolitan area.

Lenore Barbian served as forensic anthropological consultants to the Somerset County (Pennsylvania) Coroner regarding issues of final disposition of human remains from the crash of United Airlines flight 93.

Paul Sledzik continued his involvement as a member of the board of directors of the Ellis Kerley Forensic Sciences Foundation and as a consultant to the National Center for Missing and Exploited Children. He completed a 4-year assignment as Team Leader for the Region III

Disaster Mortuary Operational Response Team (DMORT).

The staff provided support to the Department of Oral Pathology in the assessment of aging cases for the Immigration and Naturalization Service.

HISTORICAL COLLECTIONS

The Division of Historical Collections acquires and preserves both artifacts of record and those of note, documenting the history of the practice of medicine, innovations in biomedical research and the evolution of medical technology. The collection emphasizes the role of the US Armed Services, US Public Health Service, and the federal government as it relates to the above themes. The collection is made available for the education of medical professionals, DoD personnel, historians and the public through exhibits in the museum, loans to other institutions and individualized study.

Consultations

Historical Collections responded to approximately 80 research requests from both military and civilian sectors. In all cases these inquiries were answered promptly and successfully based on the holdings of Historical Collections, or the matter was resolved by directing the party to another expert resource. During this year continued progress was made in cataloging, artifact identification, and planning for an integrated database. The reserve microscope collection of approximately 500 instruments was temporarily relocated to permit asbestos abatement of the microscope storage room. Notable among the approximately 800 artifacts acquired for Historical Collections in 2002 was the Drs. Rabkin Collection, which included a comprehensive and representative cross-section of American family practice instruments, furnishings, medications, documents, ephemera, and medical memorabilia spanning the second half of the 20th century.

A. Hawk returned to the museum in January 2002 after a 2-month tour of duty as a Naval Reservist for Operation Noble Eagle. Hawk was again activated beginning in the fall of 2002.

Education

Historical Collections staff conducted 20 groups through the holdings both on the floor and behind the scenes. These activities introduced numerous visiting high-ranking military personnel and others to the richness and worth of this collection. The research value of these assets to all uniformed services and the nation was appreciated by all who examined them. Historical Collections staff also actively supported the mission of other museum departments in furthering the educational role of the institution. Staff also presented formal lectures focusing on military medicine and healthcare to student and professional groups. The broader public was constantly reminded of the breadth, depth, and military relevance of the Historical Collections through print and broadcast media interviews, including *The New York Times* and *Science*. Images of artifacts were also supplied to the ARP, which appeared in its widely distributed and much anticipated calendar publication. Educational activities of this division also embraced scholarly publication on military medicine from the Civil War to Vietnam as noted below. J.T.H. Connor organized and chaired a workshop entitled "Exhibiting Medicine: Case Lessons from the Front Lines," for the annual meeting of the American Association for the History of Medicine held in Kansas City, Kan. Participants included A. Hawk as well as M. Rhode, P. Sledzik and L. Barbian. These presentations were well received; they also highlighted the museum as well as demonstrating the expertise of Collections staff.

OTIS HISTORICAL ARCHIVES

Due to renovations, Otis Archives was officially closed for most of 2002. The Archives was successfully moved to temporary office space on the first floor and returned to M-018 with no losses or damages to the collection, or injuries to staff. This project had taken up most of the year and the archives was closed from January 21, 2002-January 2, 2003. An FM-200 fire suppression system replaced the halon system, a new ceiling, doors and lights were installed, the walls were painted and the carpeting was replaced. Oglesby left in October on maternity leave. Gloria Feeney began as Historical Collection's volunteer, but has transferred to the Archives during Hawk's military leave. She has been working on organizing photographs transferred from the National Library of Medicine. COL Dave Lounsbury, head of the Borden Institute, has been assisting in organizing military medicine and surgery photographs and plans to use a selection of them in the *Textbook of Military Medicine* series. Computerized cataloging on the collection level has continued in the shelf inventory. Cataloging for the General Medical Products Information Collection, Medical Ephemera, New Contributed Photographs, audiovisual collection, AFIP historical files and others was done. Substantial

requests for information were handled, frequently regarding sensitive topics, although at a lesser rate since the Archives was officially closed for the entire year. Records on AFIP history have been provided throughout the year as required. Material was provided to the military including DoD Health Affairs - Health Operations Policy office, US Army Office of the Surgeon General's Office of Medical History (McGee exhibit), Army History magazine (Spanish-American War photographs), USUHS, and the Borden Institute. Research, mostly on military medicine, was conducted for Alliance Atlantis Communications (influenza photographs for Discovery Health Channel), BBC (Civil War photographs), California Newsreel- Human Race, Civil War Times Illustrated, Cleveland Museum of Art, Fort Verde State Historical Park, Great North International and John Gwyn Productions (Vietnam films for "War Surgeons" documentary), History Channel's This Week in History, Hoggard Films (influenza photographs), Japan Broadcasting Corporation, NIH's Office of the Director's Orientation Project (tropical medicine photographs), Skadden, Arps, Meagher, & Flom LLP (Vorwald Industrial Medicine Collection), Smithsonian Institution's National Museum of Natural History, Technica Editorial Services for the Journal of Aesthetic Plastic Surgery (Civil War photographs), Trine and Metcalf (Vorwald Industrial Medicine Collection), University of Tennessee Health Science Center- Medical Library, University of Wisconsin-Madison (Helfern collection), University of California Press (smallpox photographs), Washington City Paper, and Weitz & Luxenber, P.C. (Vorwald Industrial Medicine Collection). Julie K. Brown, in her new book *Making Culture Visible: The Public Display of Photographs at Fairs, Expositions and Exhibition in the United States, 1847-1900*, (Harwood Academic Publishers, 2001) included a substantial discussion of display of the Museum's photographs based on research in the Archives.

Several collections were arranged and described with finding aids written for them. Under my supervision, Oglesby is processing the Townsend collection. New material was acquired included Senseman's homeopathy records, Rabkin office files, a WW2 scrapbook, films and books. Museum records from staff members were added to the archives. A significant Archives presence including the Guide to the Collections of the Museum on the Web site continues to bring in researchers and several finding aids were added to the Web site which is now searchable by word. A collaborative exhibit and publication with the Borden Center on the history of surgery has begun and work on this will continue through the next year. Rhode served on the AFIP's Institutional Review Board and HIPAA Committee. Minor assistance was provided for the AFIP 2002 Calendar.

Public Affairs Reports

1. WRC/NBC. Television interview of Rhode on AFIP's atomic bomb-resistant building, aired February 7, 2002.
2. Wanda Reif. "An Inspirational Medical Memoir from a Long-Ago War," review of the Anita McGee exhibit, *The Lancet*, 359: 9305; February 9, 2002.

Exhibition Support

1. M Rhode (curator and project manager) and JTH Connor et al. "American Angels of Mercy": Dr. Anita Newcomb McGee's Pictorial Record of the Russo-Japanese War, 1904 exhibit, National Museum of Health and Medicine, Washington, DC, October 1, 2001- February 28, 2002 and a Women's History Month version in the Office of the Army Surgeon General, Falls Church, Va, March 2002.
2. J Carey Crane, M Rhode and Lenore Barbian et al. "Research Matters: 9/11 — The Armed Forces Institute of Pathology Responds" photograph exhibit, National Museum of Health and Medicine, Washington, DC, May 23, 2002-indefinite.

OFFICE OF THE REGISTRAR

(A) Michael Aurele Simons, MA, Registrar

Accessions

Individuals and institutions donating material to the museum include Dr. Adrienne Noe, Museum Director, NMHM; Dr. Ernest April, Department of Anatomy and Cell Biology, Columbia University and Dr. Charles Noback; Charles C. Barker; Dr. George Blondell; Raylene Bullock; Dr. Manuel del Cerro; Paul Forman – Curator, Modern Physics Collection, National Museum of American History; Dr. Sid Gilman, Chief of Neurosurgery, University of Michigan and Dr. Joel Vilensky, Indiana University; AFDIL-DNA Registry; Government of the District of Columbia – Department of Health, HIV/AIDS Administration; Cathy Hunter, National Geographic Society; Dr. Frank Insley; Tom Jennings; Montgomery General Hospital, Olney, Maryland; Jean Moore, House Ear Institute; Jean Morton; Office of the Chief Medical Examiner, New York, NY; Donna Quist, Historical Collections Specialist, NMHM; Dr. Boris Rabkin; Michael

Rhode, Archivist, NMHM; 74th MDSS/SGSL, Wright Patterson Air Force Base; Michael Simons, Registrar, NMHM; Paul Sledzik, Curator Anatomical Collections, NMHM; Stone House Antiques; Telemedicine and Advanced Technology Research Center, Fort Detrick; Dr. Robert Thiele; Marsha Trimble, Curator, University of Virginia Law Library; Valley Regional Hospital, Claremont, NH; WRAMC; and Jane Zuke.

Loans

The Museum loaned a total of 10 objects to 4 borrowers. Three loans were to institutions for exhibit purposes. Among these were loans to the Dolan DNA Learning Center for “Genome Exhibition: The Genes We Share”; the Rogosin Institute for the 2002 Lasker Awards; and the Lyndon Baines Johnson Library and Museum for “Discovering America: The World of Lewis and Clark.” Dr. Susumo Mori used loaned materials for research.

DEPARTMENT OF RESEARCH COLLECTIONS

Research Collections have the responsibility to acquire, preserve, and encourage the use of major research collections for all qualified members of the research community. The collections are made available for research and education by appointment, and via Web site. Continued stimulation of new hypothesis-driven research is a top priority.

The Research Collections consist of 2 areas the Human Developmental Anatomy Center and the Neuroanatomy Collections and receive significant extramural funding for the pursuit of long-standing extra-institutional collaborations. The Human Developmental Anatomy Center has entered its 5th year of funding by the National Institutes of Child Health and Human Development, the National Center for Research Resources, and the Office of Research on Women’s Health. The Neuroanatomy Collections continue to be the recipient of National Science Foundation funding for electronic collections development.

HUMAN DEVELOPMENTAL ANATOMY CENTER (HDAC)

STAFF

Adrianne Noe, PhD, Director
Elizabeth C. Lockett, Imaging Specialist
William F. Discher, Imaging Specialist
Kumudini Mayur, PhD, Imaging Scientist

Student Interns

Andrew Chen, Programmer
Angela Fang, Thomas Wootton High School, Montgomery County, Md
David Barney, Thomas Wootton High School, Montgomery County, Md
James Ahn, Winston Churchill High School, Montgomery County, Md
Jullie Yun, Thomas Wootton, High School, Montgomery County, Md
Kathy Cha, Winston Churchill High School, Montgomery County, Md
Nina Zheng, Thomas Wootton High School, Montgomery County, Md
Laura Zendel, University of Wisconsin
Mathew Hanson, Paint Branch High School, Montgomery County, Md
Alexander Hamidi, Howard County, Md
Betsy Chang, Winston Churchill High School, Montgomery County, Md

Collections

Carnegie Institution Human Embryological Collection
Cornell Human and Comparative Embryology Collection
Hooker Humphrey Collection
The Elizabeth Maplesden Ramsey Collection
George Sedgewick Minot Embryological Collection
Gaenssler Pulmonary Pathology Collection

Tours

The Anatomy Center hosted 39 tours this past year. Visiting military VIPs, school tours, professional organizations, and AFIP staff have visited the Center for enhanced overviews of the Museum.

Workshops

HDAC staff presented a workshop in 3-D computer modeling for disadvantaged high school girls, St. Anne Institute, Albany, NY. We participated in the open house for high school

science teachers hosted by the Museum, and lectures on the present and future uses of the Carnegie Collection were presented to the Carnegie Institute of Washington, DC.

Research

Five visiting researchers used the collections for a total of 15 days on 5 visits. Research topics included the developing heart, maxillofacial development, general development and neuroanatomy. AFIP staff requested information on pediatric pathology from the collection. The center had 17 requests for images from the collection and 3 requests for magnetic resonance microscopy data sets were prepared, requiring 41 staff days to process. Twelve CDs with sets of images from human development were sent in response to popular press requests for images.

Exhibitions

The temporary exhibit from "Conception to Birth," including visualizations from the book of the same name by Alexander Tsiaras, was substantially assisted by HDAC staff, as was the reinstallation of the anatomically based development exhibition. Images and data from the Carnegie Collection of Human Embryology were extensively used throughout the book.

Grants

1. "Human Embryology Digital Library and Support Tools" (phase 2), the Next Generation Internet Project, funded by National Library of Medicine with George Mason University as coordinator. The goal of this grant is to develop prototype databases and other technologies to enable collaboration among multiple, distributed researchers, and to progress toward advanced clinical and educational goals in human embryology.
2. "Human Embryology on DVD," with Louisiana State University Medical Center, funded by the National Library of Medicine. The objective of this project is to provide students, educators, and researchers accurate, inexpensive, and accessible visual information on human embryonic development. Aligned digital images of the serial sections of the best normal human embryos in the Carnegie Collection will be made available on computer disks (DVDs).

Collaborative Projects

Johns Hopkins University: To provide specimens from normal human development for MRM to examine the early growth of neural pathways. Data sets from this project are added to the Digital Embryo Library and made available to any qualified researcher.

National Institutes of Health: To create high resolution MRM data sets of 2nd and early 3rd trimester fetus for inclusion in the Digital Embryo Library.

University of Illinois at Chicago: Continued production of a series of animations depicting normal human development using models generated at the center. These will be viewed via Web site for teaching and patient information.

Web site

The HDAC Web site underwent a reorganization to streamline navigation through the site. Collections history and the history of the center was updated. Biographical information about researchers who have performed ground-breaking research with the collection is provided as is a brief history of the development of the Carnegie Collection by the Carnegie Institute of Washington. Information for use in human developmental anatomy education was re-organized and consolidated. Anatomical information from the "Contributions to Embryology" is provided with models developed by the Human Developmental Anatomy Center. An electronic version of a laboratory manual developed by the Harvard School of Medicine, a glossary of terms and table to developmental stages have been posted as aids for teaching embryology. The University of Illinois at Chicago has been developing a Web site as part of the Visible Embryo Project for use in on-line education. The site is currently incorporated into the curricula of Johns Hopkins University, University of Illinois Chicago and University of Wisconsin for evaluation.

NEUROANATOMICAL COLLECTIONS

The Neuroanatomical staff encourages the use of its resources by all qualified members of the research community as part of its role within the AFIP and the NMHM. This division collects and preserves valuable artifacts of neuroanatomy and strives to become the premier repository in the United States for collections focusing on neuroanatomy in the embryo, the adult human, as well as other selected species. Continued stimulation of new hypothesis-driven research is a top priority.

STAFF

Archibald J. Fobbs, Collection Manager
 Surinder Sandhu, PhD, Assistant Curator

Collaborating Researchers

John I. Johnson, PhD, Department of Anatomy, Michigan State University
 Wally I. Welker, PhD, Department of Physiology, University of Wisconsin-Madison
 John Allman, PhD, Hixon Professor of Neurobiology, Division of Biology, California Institute of Technology
 Kebreten Manaye, MD, Department of Physiology and Physics, Howard University College of Medicine
 Kondi Wong, MD, Department of Neuropathology, AFIP

Volunteers

Stephen Schiaffino, PhD

Student Interns

Vikas Patel, University of Maryland Baltimore County, Md
 Roxanna Montaya, River Hill High School, Md
 Christopher Ewing, River Hill High School, Md
 Jessica Reitz, Paint Branch High School, Md
 Matthew Skelly, Paint Branch High School, Md
 Jonathan Wiegler, Paint Branch High School, Md
 Melissa Smolls, Science and Engineering Program George Washington University

Collections

Yakovlev-Haleem Neuropathology and Development Collection
 Blackburn-Newmann Collection
 Lindenburg Forensic Pathology Collection
 Welker Comparative Neuroanatomy Collection
 Rubenstein Collection
 Adolph Meyer Neuropathology and Development Collection
 Isabel Lockhard Comparative Neuroanatomy Collection
 The Poulos Anatomical Collection
 Denny Brown Neuromuscular Collection
 Starr Collection
 William Cruce Collection
 Harrison Collection

Web site

The universities of Wisconsin-Madison, and Michigan State implemented and supervise the Web site. Financial support for this Web site is provided by a grant from the National Science Foundation. Collection inquiries via the Web site increased 50 percent over the prior year. Requests for collection images, scheduled visits to the collections division, and visits to the museum have all increased as a result of the Web site. Educators report that the Web site is a useful curriculum development resource for science projects and for answering structural and functional questions about the brain.

The Web site widely publicizes images and information about the existence, contents, and value of the brain collections. Via the internet, information about sectioned brain specimens at the 3 institutions will be presented and promoted electronically on our Brain Collection home page <http://www.brainmuseum.org>, with additional information on ancillary sites, including <http://www.manateebrain.org>; <http://www.brains.rad.msu.edu> (the Michigan State portal); and <http://turing.commttechlab.msu.edu/default.htm> (the database site). The 4 sites are interlinked; all can be reached from one another. The visual presentations that we have already made on the internet, and that we are about to expand, have aroused interest in comparative neuroanatomy and enhanced understanding about the nervous system to a wide audience.

Conservation

The fluid-preserved tissue conservation for the Yakovlev-Haleem Collection and the Welker Comparative Neuroanatomy Collection continues. Conservation procedures are performed on a regular basis and fluids are changed as needed. In an effort to improve the conservation efforts the fluid preserved tissue of the Yakovlev-Haleem Collection has been transferred to the

museum's off site storage facility in Gaithersburg, Maryland.

The Blackburn-Neumann Collection fluid preserved tissue evaluation and conservation effort has been completed. As a result, the condition of the tissue, the type and condition of the fluid, and condition of the containers were improved. This information has been used to develop statement of work and a standard operating procedure for implementation of a complete conservation reconditioning of all fluid preserved tissue specimens in the collection. Paper documents of the Blackburn-Neumann Collections were moved from the Department of Neuropathology and safely housed in map cases in the Otis Historical Archives.

Collection staff are currently identifying conservation needs and examining Welker Comparative Neuroanatomy Collection slides, along with all other collection slides. This information is used to continue to develop and implement a conservation plan. The Yakovlev-Haleem library continues to be organized into its new bookcases. As the reorganization takes place, evaluation of the condition of the contents continues.

Equipment

A new server has been added to handle file transport process applications, image acquisition, data storage, brain specimen reconstruction and digital graphic imaging. This equipment is available to researchers and student interns. Four new graphic user interface capture work stations have been obtained via extramural funding, so that project time and efficiency can be managed more effectively.

Research

Researchers visiting the Neuroanatomical Collections increased by 50 percent. The number of researchers visiting the collections during 2002 totaled 230. Despite the constant security changes and difficulties for all visitors. Many visiting researchers obtained collection information via the internet and staff membership in neuroscience organizations. The National Science Foundation continues to recognize the collaboration between the NMHM/AFIP/ARP, the University of Wisconsin-Madison, and Michigan State University as one of its model projects and has continued and increased the funding for NMHM and these collaborators.

The number of students taking part in various research activities increased by 50 percent. The Neuroanatomical Collections were instrumental in providing valuable educational experiences for students from Paint Branch High School in Silver Spring, Maryland, Holmes Middle School in Alexandria, Virginia, and the Thomas Pyle Middle School in Montgomery County, Maryland. Howard County Technology Magnet Applications and Research Laboratory Program has partnered with the NMHM of the AFIP to promote internships for high school students of Howard County. This relationship provides research opportunities for students attending the county's technical magnet programs at Long Reach and Paint Branch high schools in Columbia, and River Hill High School in Clarksville, Maryland.

Outreach

The Neuroanatomical division of the NMHM/AFIP, the Dana Alliance for Brain Initiatives, and the NIH collaborated on a Brain Awareness program. Students from Virginia, Maryland, and the District of Columbia were invited to hear featured speakers from NIH and to participate in interactive demonstrations. They also viewed artifacts from the Museum's brain collections. A total of 1,200 students attended the 5-day program.

Elementary and secondary educators continue to increasingly use the collection for classroom instruction. One such institution is Stevens Forest Elementary where students have been provided a series of lectures for grades K through 5.

Extensive alphanumeric data from museum collection specimens are also used worldwide via Internet presentation. Interns with the Neuroanatomical Collections are able to gain experience with this technique using sophisticated software. Data and images from museum collection specimens are made available for use in education at all levels. This is done via the internet or via physical diskettes.

Magnetic Resonance Imaging (MRI) scans provide volumetrically and spatially accurate data about the internal architecture of brains of rare or difficult-to-process species of animals. The spatial data can be analyzed in 3-D models. Student interns obtain scans using software such as MAYA and SURFDRIIVER, with which they commence 3-D modeling. The project has provided opportunities for training interns in the use of data storage, electronic imaging, and the acquisition of neuroanatomical data, including 3-D surface render modeling.

Tours

The Neuroanatomy Center hosted approximately 100 tours during 2002.

Library

Yakovlev-Haleem Collection Library usage increased by 20 percent. The major source of the increase was students taking the AFIP Neuropathology Review Course, AFIP Department of Neuropathology staff members, and visiting researchers.

PRESENTATIONS

1. February 2002: San Diego, Calif, National Partnership for Advanced Computer Infrastructure, "The NGI/National Museum of Health and Medicine/AFIP Project," A Noe.
2. February 2002: Howard County, Md, ARL, "Applied research, demonstration of the human brain and its functions," AJ Fobbs.
3. February 2002: NMHM/AFIP, "United States colored troops," L Barbian.
4. February 2002: Atlanta, Ga, American Academy of Forensic Sciences, "The Disaster Mortuary Operational Response Team (DMORT) model for managing mass fatality incidents (workshop)," FP Saul, PS Sledzik, F Ciaccio.
5. March 2002: Atlanta, GA, National Disaster Medical System, "The Response to the Crash of United Flight 93," PS Sledzik.
6. March 2002: Washington, DC, National Museum of Health and Medicine/AFIP, "Brain Awareness Week," JM Burns, S Sandhu, S Saluke, AJ Fobbs, A Noe.
7. March 2002: Bethesda, Md, Research and Education Day, United States Uniformed Health Services, "Sheep brain atlas, bottle nosed dolphin brain reconstruction in MRI," AJ Fobbs, S Sandhu.
8. April 2002: Kansas City, Kan, American Association for the History of Medicine, "Visceral reality: visitor reactions to displays of human anatomy," L Barbian.
9. April 2002: Kansas City, Mo, American Association for the History of Medicine, "A study in cases: the use of case histories at the National Museum of Health and Medicine," PS Sledzik.
10. April 2002: Frederick, Md, Mid-Atlantic Association of Forensic Sciences, "Forensic science and the Civil War," PS Sledzik.
11. April 2002: Kansas City, Mo, American Association for the History of Medicine, "Theory, practice and examples from the Otis Historical Archives," M Rhode.
12. May 2002, New Orleans, La, FASEB, Platform Talk, "Digitally reproduced embryonic morphology (DREM) available on CDs and DVDs," RF Gasser, RJ Cork.
13. May 2002: Bethesda, Md, USUHS, Research Day, "Sheep brain atlas, magnetic resonance image reconstruction of the bottle nosed dolphin," S Sandhu, AJ Fobbs.
14. June 2002: Gainesville, Fla, Association of Clinical Anatomists Annual Meeting, Platform Talk, "Animated embryology teaching tools: development of the human thorax," MJ Holterman.
15. June 2002: Gainesville, Fla, Association of Clinical Anatomists Annual Meeting, Poster, "Opportunities for internships at the Human Developmental Anatomy Center," EC Lockett, WF Discher.
16. July 2002: Washington, DC, National Center for Healthcare Statistics, "Collections assets and the next generation Internet," A Noe.
17. July 2002: NMHM/AFIP, "Civil War medicine," L Barbian.
18. July 2002: Washington, DC, National Museum of Health and Medicine/AFIP, National Youth Leadership Forum on Medicine Careers in Science, AJ Fobbs.
19. July 2002: Frederick, Md, National Cancer Institute (NIH), "Unlocking the mysteries of the brain," AJ Fobbs.
20. July 2002: Barcelona, Spain, Joint Meeting of the British Association of Clinical Anatomy and the Society of Spanish Anatomists, Platform Talk, "Distance learning for the study of embryology," MJ Holterman.
21. July 2002: London, UK, Society for the History of Authorship, Reading and Publishing, "An enduring monument: Philadelphia's contributions to *The Medical & Surgical History of the War of the Rebellion* (1870-1888)," M Rhode.
22. August 2002: Washington, DC, Ideal Academy, "Unlocking the mysteries of the brain," AJ Fobbs.
23. August 2002: Shepherdstown, WV, 10th Annual Conference on Civil War Medicine, sponsored by the National Museum of Civil War Medicine, "Bones, bodies, and bullets: a forensic scientist's perspective on the Civil War," PS Sledzik.

24. September 2002: Montpellier, France, International Association of Forensic Sciences, "Development of standard protocols for management of morgue facilities in mass disasters," M London, L Barbian, D Mulhern, P Sledzik.
25. September 2002: Timisoara, Romania, 17th International Symposium on Morphological Sciences, Platform Talk, "Human embryology education: computer models and animations provide valuable teaching tools," MJ Holterman, D Bolender, MJ Pescitelli, OA Ashiru, GA Blew.
26. September 2002: Williamsburg, Va, Virginia Homicide Investigators Association Annual Meeting, "DMORT and mass fatality incident operations," PS Sledzik.
27. October 2002: Flatwoods, WV, West Virginia Medicolegal Death Investigation Course, "DMORT and mass fatality operations," PS Sledzik.
28. October 2002: Washington, DC, 5th Annual Archives Fair at the Smithsonian Institution's Ripley Center, M Rhode, T Oglesby.
29. October 2002: Silver Spring MD, Rock Creek Health Club, Unlocking the Mysteries of the Brain, AJ Fobbs.
30. October 2002: Washington, DC, National Museum of Health and Medicine, Science in the Classroom Teachers Workshop, AJ Fobbs, S Sandhu, S Saluke, A Noe, JM Burns.
31. November 2002: New Orleans, La, Society for Neuroscience, "Web site access to museum specimens for use in neuroscience classrooms and laboratories," JI Johnson, JA Morris, PM Gorayski, SE Sheppard, RA Carloni, BM Winn, WI Welker, CL Dizack, KL Graeme, AJ Fobbs.
32. November 2002: Somerset, NJ, 41st Annual Eastern Analytical Symposium, "The role of the federal government in mass fatality incidents," PS Sledzik.
33. December 2002: Fairfax, Va, George Mason University, "The National Museum of Health and Medicine, Armed Forces Institute of Pathology, and the next generation Internet," A Noe.
34. December 2002: Washington, DC, 4th Conference on Partnership Opportunities for Federally Associated Collections, "How bodies attract: capitalizing on changing perceptions of museum content," J Connor, L Barbian.
35. December 2002: Washington, DC, NMHM/AFIP, "Flesh and bones: anatomical collections and their display," L Barbian.
36. December 2002: Sun City, South Africa, International Symposium of Morphologist Sciences, "Digital images of sectioned human embryos on DVDs," RF Gasser, RJ Cork.

PUBLICATIONS

Journal Articles

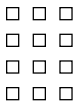
1. Hawk A. An ambulating hospital: or, how the hospital train transformed Army medicine. *Civil War History*. 2002;48:197-219.
2. Hawk A. Jungle medicine, treating VC wounded. *Vietnam*. 2002;15:42-48, 64.
3. London M, Barbian L, Mulhern D, Sledzik P. Development of standard protocols for management of morgue facilities in mass disasters (abstract). *Journal de médecine légale, droit médical victimologie dommage corporel/ Journal of Forensic Medicine*, 2002;45:30.
4. Rhode M. The art and politics of Arthur Szyk. *International Journal of Comic Art*. 2002;4:2.

Book Chapters

1. Sledzik PS, Willcox AW. Corpi aquaticus: the Hardin Cemetery flood of 1993. In: Steadman DW, ed. *Hard Evidence: Case Studies in Forensic Anthropology*. Upper Saddle River, NJ: Prentice-Hall; 2002:256-265.
2. Sledzik PS, Sandberg L. The effects of 19th century military service on the human skeleton. In: Steckel R, Rose J, eds. *Backbone of History: Health and Disease in the Western Hemisphere*. Oxford, England: Cambridge University Press; 2002:238-267.
3. Sledzik PS, Rodriguez WC. Damnum fatale: the fate of human remains in mass disasters. In: Haglund W, Sorg M, eds. *Advances in Forensic Taphonomy: Method, Theory, and Archaeological Perspectives*. Boca Raton, Fla: CRC Press; 2002:321-330.

AMERICAN REGISTRY OF PATHOLOGY





AMERICAN REGISTRY OF PATHOLOGY

William A. Gardner, Jr., MD
Executive Director
Date of Appointment – 1 August 2002

The American Registry of Pathology underwent a significant transition in 2002 with the retirement of Dr. Donald West King as Executive Director. A successful search for his replacement culminated with the appointment of Dr. William A. Gardner, Jr. as Executive Director, effective August 1.

EDUCATION

In 2002, the fellowship program continued with 24 Callender-Binford Fellows pursuing training in the departments of Dermatopathology, Hematopathology, Nephropathology, Neuropathology, Cardiovascular, Cellular, GYN/Breast, Hepatic/GI, Ophthalmic, Pulmonary, Radiologic, Soft Tissue, and Veterinary Pathology, and the OAFME. Nine distinguished pathologists presented Callender-Binford Lectures.

ACCOMPLISHMENTS

ARP sponsored the 12th Stowell Lecture, entitled “Integrated Curriculum – Disintegration of Pathology?” by Dr. Vinay Kumar, and jointly sponsored, with AFIP, the James Earle Ashe Lecture, entitled “Sequencing the Human Genome,” by Dr. J. Craig Venter.

ARP intends to reestablish, along with AFIP, the one-month resident fellowship program. ARP will provide housing and remit to AFIP its recently instituted \$800 monthly training fee. Our initiative to establish the Donald West King Fellows is appropriate, as the one-month fellowship program was initiated by Dr. King. Since 1997, there have been 202 such fellows. An announcement to program directors and department chairs will be forthcoming in 2003.

The ARP Board initiated a fund to establish the F.K. Mostofi Fellowship in Genitourinary Pathology, in recognition of one of the icons of American pathology. Pathologists, urologists, and patients who have benefited greatly from Dr. Mostofi’s expertise and wise counsel will have an opportunity to contribute to his legacy in this way.

ARP facilitated the opening of a gift shop in the National Museum of Health and Medicine. The shop will distribute educational brochures and publications to the museum’s thousands of annual visitors.

In conjunction with AFIP, ARP authorized the commitment of \$2.5 million from the Cooperative Enterprise Registry. Half of these funds went to consultation activities, one third went to support AFIP administrative activities, and the remainder was earmarked for education and museum programs. Projects of particular note include: \$781,000 for AFIP Central Business Office staff, systems, and support; \$584,000 for laboratory staining equipment; \$234,000 to support the Callender-Binford Fellowship program; and \$81,000 for a museum collection database.

The final volume of the third series of the AFIP Tumor Fascicles, *Tumors of the Intestine*, by Robert H. Riddell, MD, Robert E. Petras, MD, Geraint T. Williams, MD, and Leslie H. Sobin, MD is in press. The fourth series, edited by Dr. Stephen Silverberg, is well underway, with the first volume, *Tumors of the Kidney, Bladder and Related Urinary Structures*, by William M. Murphy, MD, Elizabeth J. Perlman, MD, and David J. Grignon, MD, is slated for distribution in spring 2003. The second volume of the Atlas of Non-Tumor Pathology, *Non-Neoplastic Disorders of the Lower Respiratory Tract*, has received highly positive reviews in both pathology and radiology professional journals.

In recent years, downsizing of the U.S. military has brought increasing fiscal pressures and programmatic scrutiny to AFIP, especially of its interface with the civilian community. The full consequences of this scrutiny are not yet known. However, it is ARP's intention and goal to continue addressing our congressionally authorized role of enhancing communication between the civilian community and military medicine.



The American Registry of Pathology Board Members. Back row from left to right: Richard C. Froede, MD; Steven G. Silverberg, MD; Guy Glenn, MD; Ralph C. Eagle, Jr., MD; William A. Gardner, MD; John K. Duckworth, MD; Fred Gorstein, MD; C. Barrie Cook, MD. Front row from left to right: Bernard Wagner, MD; Wayne C. Johnson, MD; Anthony N. Proto, MD; Daniel Seckinger, MD.

2002 PUBLICATIONS LIST

2002 PUBLICATIONS

ITEMS PUBLISHED IN PROFESSIONAL JOURNALS

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- Alroy J, Sabnis S, Kopp JB. Renal pathology in Fabry disease. *J Am Soc Nephrol*. 2002;13:S131-S138.
- Anania FA, Rabin L. Terbinafine hepatotoxicity resulting in chronic biliary ductopenia and portal fibrosis. *Am J Med*. 2002;112:741-742.
- Bancroft LW, Peterson JJ, Kransdorf MJ, Nomikos GC, Murphey MD. Soft tissue tumors of the lower extremities. *Radiol Clin North Am*. 2002;40:991-1011.
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